Index of Authors

ADIGA, P. R. *see* MURTHY, U. S. 331–335
ALLISON, Y. P. *see* PHILLIPS, J. H. 661–672
ANTHONY, C. *see* O'KEEFFE, D. T. 561–567
ARNSTEIN, H. R. V. *see* SETCHENSKA, M. S. 193–201
AUFRÈRE, J. *see* RÉMÉSY, C. 321–329

BAKALKIN, G. Y., KALNOV, S. L., GALKIN, A. V., ZUBATOV, A. S. & LUZIKOV, V. N. The lability of the products of mitochondrial protein synthesis in *Saccharomyces cerevisiae*. A novel method for protein half-life determination 569–576
BALASINGHAM, N. *see* SLACK, C. R. 421–433
BEECHEY, R. B. *see* LINNETT, P. E. 503–510
BILLINGTON, D. *see* OSMUNDSEN, H. 337–342
BOOTH, R. F. G. & CLARK, J. B. Studies on the mitochondrially bound form of rat brain creatine kinase 145–151
BREWSTER, D., JONES, R. S. & PARKE, D. V. The metabolism of shikimate in the rat 257–264
BRONNER, F. *see* EDELSTEIN, S. 227–233
BROWN, S. B. & KING, R. F. G. J. The mechanism of haem catabolism. Bilirubin formation in living rats by [^{18}O]oxygen labelling 297–311
BROWN-WOODMAN, P. D. C., MOHRI, H., MOHRI, T., SUTER, D. & WHITE, I. G. Mode of action of α-chlorohydrin as a male anti-fertility agent. Inhibition of the metabolism of ram spermatozoa by α-chlorohydrin and location of block in glycolysis 23–37
BRUNETTE, D. M. *see* LIMEBACK, H. F. 63–71
BRYAN, S. E. *see* HIDALGO, H. A. 219–225
BULLOCK, S. *see* ROSS, B. D. 177–179
BUSBY, S. J. W., GADIAN, D. G., RADDA, G. K., RICHARDS, R. E. & SEELEY, P. J. Phosphorus nuclear-magnetic-resonance studies of compartmentation in muscle 103–114
BYGRAVE, F. L. Properties of energy-dependent calcium transport by rat liver microsomal fraction as revealed by initial-rate measurements 87–91
BYGRAVE, F. L. *see also* SMITH, R. L. 81–85

CALVERT, K. T. *see* THEIL, E. C. 137–143
CARELL, E. F. *see* GOETZ, G. H. 631–636
CARLETON, J. S. *see* PEARSON, J. D. 265–271
CARRION, A. *see* RODRIGUEZ-SEGADE, S. 577–582
CELLA, C. *see* VANNUCCHI, S. 185–187
CHAPPELL, J. B. *see* DAWSON, A. G. 395–405
CHARLTON, R. R. & WENNER, C. E. Calcium-ion transport by intact Ehrlich ascites-tumour cells. Role of respiratory substrates, P_i and temperature 537–544
CHARMAN, M. *see* SPENCER, R. 93–101
CHIARUGI, V. *see* VANNUCCHI, S. 185–187
CHRASTIL, J. & WILSON, J. T. Contribution of cytochromes and proteins to the effect of ascorbic acid on artificial and microsomal hydroxylation systems containing oxygen and hydrogen peroxide 693–698
CLARK, J. B. *see* BOOTH, R. F. G. 145–151
CLEVELAND, C. E. & SWANK, R. T. Effect of potassium deficiency on mouse kidney lysosomal enzymes 249–256
CONOVER, C. *see* PEGG, A. E. 651–660
COOKE, B. A. *see* JANSZEN, F. H. A. 9–15
CORNBLATH, M. *see* OZAND, P. T. 583–591
COX, G. B., DOWNIE, J. A., GIBSON, F. & RADIK, J. Genetic complementation between two mutant *unc* alleles (*uncA*401 and *uncD*409) affecting the F_1 portion of the magnesium ion-stimulated adenosine triphosphatase of *Escherichia coli* K12 593–598
CRYER, A., KIRTLAND, J., JONES, H. M. & GURR, M. I. Lipoprotein lipase activity in the tissues of guinea pigs exposed to different dietary fats from conception to three months of age 169–172
CUNDLIFFE, E. *see* HOBDEN, A. N. 57–61

DAVIES, P. *see* THOMAS, P. 211–218
DAWSON, A. G. & CHAPPELL, J. B. The oxidative activities of membrane vesicles from *Bacillus caldolyticus*. Energy-dependence of succinate oxidation 395–405
DAWSON, R. M. C. *see* NEILL, A. R. 529–535
DEL ROSSO, M. *see* VANNUCCHI, S. 185–187
DELVALLE, J. A., DIENEL, G. & GREENGARD, O. Comparison of α-methylphenylalanine and *p*-chlorophenylalanine as inducers of chronic hyperphenylalaninaemia in developing rats 449–459
DEMIGNÉ, C. *see* RÉMÉSY, C. 321–329
DICKSON, J. J. & MESSER, M. Intestinal neuraminidase activity of suckling rats and other mammals. Relationship to the sialic acid content of milk 407–413
DIENEL, G. *see* DELVALLE, J. A. 449–459
DINEEN, R. W. & GRAY, D. O. The biochemical pathway for the breakdown of N^4-ethyl-L-asparagine in the bacterium *Pseudomonas stutzeri* 487–493
DOWNIE, J. A. *see* COX, G. B. 593–598
DUNLOP, D. S., VAN ELDEN, W. & LAJTHA, A. Protein degradation rates in regions of the central nervous system *in vivo* during development 637–642

EDELSTEIN, S., NOFF, D., SINAI, L., HARELL, A., PUSCHETT, J. B., GOLUB, E. E. & BRONNER, F. Vitamin D metabolism and expression in rats fed on low-calcium and low-phosphorus diets 227–233
EKMAN, B. *see* LJUNGSTEDT, I. 161–165
EVANS, M. C. W. *see* HEATHCOTE, P. 373–378; WILLIAMS-SMITH, D. L. 365–371

FAUSTO, N. *see* MCGOWAN, J. A. 123–127
FELIX, R., HERRMANN, W. & FLEISCH, H. Stimulation of precipitation of calcium phosphate by matrix vesicles 681–691
FLEISCH, H. *see* FELIX, R. 681–691
FODEN, S. & RANDLE, P. J. Calcium metabolism in rat hepatocytes 615–625
FORSDYKE, D. R. *see* SCOTT, F. W. 545–549
FREIRE, M. *see* RODRIGUEZ-SEGADE, S. 577–582
FUKUSHIMA, M., NISHII, Y., SUZUKI, M. & SUDA, T. Comparative studies on the 25-hydroxylations of cholecalciferol and 1α-hydroxycholecalciferol in perfused rat liver 495–502

GADIAN, D. G. *see* BUSBY, S. J. W. 103–114
GALKIN, A. V. *see* BAKALKIN, G. Y. 569–576

GARDNER, R. S. & MAYES, P. A. Comparison of the metabolism of chylomicrons and chylomicron remnants by the perfused liver 47–55
GEELEN, M. J. H. *see* WOJTCZAK, A. B. 379–385
GHANI, Q. P. & HOLLENBERG, M. Poly(adenosine diphosphate ribose) metabolism and regulation of myocardial cell growth by oxygen 387–394
GIBSON, F. *see* COX, G. B. 593–598
GIMPEL, J. A. *see* HENSGENS, H. E. S. J. 699–707
GOETZ, G. H. & CARELL, E. F. Recovery from vitamin B-12-induced unbalanced growth. The shortened cell cycle and the deoxyribonucleoside triphosphate pools 631–636
GOLUB, E. E. *see* EDELSTEIN, S. 227–233
GORDON, J. L. *see* PEARSON, J. D. 265–271
GOTTLIEB, D. *see* WOOD, S. G. 343–354, 355–363
GOVE, C. D. & HEMS, D. A. Fatty acid synthesis in the regenerating liver of the rat 1–8
GRANT, M. E. *see* SEAR, C. H. J. 715–718
GRAY, D. O. *see* DINEEN, R. W. 487–493
GREEN, J. R. & NORTHCOTE, D. H. The structure and function of glycoproteins synthesized during slime-polysaccharide production by membranes of the root-cap cells of maize (*Zea mays*) 599–608
GREENGARD, O. *see* DELVALLE, J. A. 449–459
GRIFFITHS, K. *see* THOMAS, P. 211–218
GRIME, D. W. *see* NEILL, A. R. 529–535
GURR, M. I. *see* CRYER, A. 169–172

HAMASAKI, N., HARDJONO, I. S. & MINAKAMI, S. Transport of phosphoenolpyruvate through the erythrocyte membrane 39–46
HANSFORD, R. G. Lipid oxidation by heart mitochondria from young adult and senescent rats 285–295
HARDJONO, I. S. *see* HAMASAKI, N. 39–46
HARELL, A. *see* EDELSTEIN, S. 227–233
HASSINEN, I. E. *see* HILTUNEN, J. K. 235–240
HAWKINS, R. L. *see* OZAND, P. T. 583–591
HEATHCOTE, P., WILLIAMS-SMITH, D. L. & EVANS, M. C. W. Quantitative electron-paramagnetic-resonance measurements of the electron-transfer components of the photosystem-I reaction centre. The reaction-centre chlorophyll (P700), the primary electron acceptor X and iron–sulphur centre A 373–378
HEATHCOTE, P. *see also* WILLIAMS-SMITH, D. L. 365–371
HEMS, D. A. *see* GOVE, C. D. 1–8
HEMS, R. *see* VIÑA, J. 627–630, 711–713
HENSGENS, H. E. S. J., MEIJER, A. J., WILLIAMSON, J. R., GIMPEL, J. A. & TAGER, J. M. Proline metabolism in isolated rat liver cells 699–707
HERRMANN, W. *see* FELIX, R. 681–691
HIDALGO, H. A., KOPPA, V. & BRYAN, S. E. Induction of cadmium-thionein in isolated rat liver cells 219–225
HILTUNEN, J. K. Metabolic effects of pent-4-enoate in isolated perfused rat heart 241–247
HILTUNEN, J. K., JAUHONEN, V. P., SAVOLAINEN, M. J. & HASSINEN, I. E. Effects of pent-4-enoate on cellular redox state, glycolysis and fatty acid oxidation in isolated perfused rat heart 235–240
HOBDEN, A. N. & CUNDLIFFE, E. The mode of action of alpha sarcin and a novel assay of the puromycin reaction 57–61
HOLLENBERG, M. *see* GHANI, Q. P. 387–394
HOLTFRERICH, D. *see* VON FIGURA, K. 313–320
HUTCHINGS, A. *see* PEARSON, J. D. 265–271

JACKSON, D. S. *see* SEAR, C. H. J. 715–718
JAIN, K. & LOGOTHETOPOULOS, J. Metabolic signals produced by purine ribonucleosides stimulate pro-insulin biosynthesis and insulin secretion 461–467
JAMDAR, S. C. Glycerolipid biosynthesis in rat adipose tissue. Influence of adipose-cell size and site of adipose tissue on triacylglycerol formation in lean and obese rats 153–160
JANSZEN, F. H. A., COOKE, B. A., VAN DRIEL, M. J. A. & VAN DER MOLEN, H. J. Regulation of the synthesis of lutropin-induced protein in rat testis Leydig cells 9–15
JAUHONEN, V. P. *see* HILTUNEN, J. K. 235–240
JONES, C. J. P. *see* SEAR, C. H. J. 715–718
JONES, H. M. *see* CRYER, A. 169–172
JONES, R. S. *see* BREWSTER, D. 257–264

KALNOV, S. L. *see* BAKALKIN, G. Y. 569–576
KAUFFMAN, F. C. *see* WAGNER, K. R. 17–22
KEWLEY, M. A. *see* SEAR, C. H. J. 715–718
KIDO, R. *see* NOGUCHI, T. 173–175
KING, R. F. G. J. *see* BROWN, S. B. 297–311
KIRTLAND, J. *see* CRYER, A. 169–172
KIVIRIKKO, K. I. *see* RISTELI, J. 129–135
KNOWLER, J. T. Oestriol-stimulated synthesis of ribonucleic acid in the uterus of the immature rat 181–183
KOPPA, V. *see* HIDALGO, H. A. 219–225
KREBS, H. A. *see* VIÑA, J. 627–630, 711–713
KRESSE, H. *see* VON FIGURA, K. 313–320
KRITCHER, E. M. *see* WYBORNY, L. E. 189–192

LACEY, J. H. & RANDLE, P. J. Inhibition of lactate gluconeogenesis in rat kidney by dichloroacetate 551–560
LAJTHA, A. *see* DUNLOP, D. S. 637–642
LAWSON, D. E. M. *see* SPENCER, R. 93–101
LIMEBACK, H. F., SODEK, J. & BRUNETTE, D. M. Nature of collagens synthesized by monkey periodontal-ligament fibroblasts *in vitro* 63–71
LINNETT, P. E., MITCHELL, A. D., OSSELTON, M. D., MULHEIRN, L. J. & BEECHEY, R. B. Citreoviridin, a specific inhibitor of the mitochondrial adenosine triphosphatase 503–510
LJUNGSTEDT, I., EKMAN, B. & SJÖHOLM, I. Detection and separation of lymphocytes with specific surface receptors, by using microparticles 161–165
LOGOTHETOPOULOS, J. *see* JAIN, K. 461–467
LUCHI, R. J. *see* WYBORNY, L. E. 189–192
LUZIKOV, V. N. *see* BAKALKIN, G. Y. 569–575

MAINWARING, W. I. P. *see* PARKER, M. G. 115–121
MAJUMDAR, A. P. N. *see* NAKHLA, A. M. 445–448
MAYES, P. A. *see* GARDNER, R. S. 47–55
MAX, S. R. *see* WAGNER, K. R. 17–22
MCGOWAN, J. A. & FAUSTO, N. Ornithine decarboxylase activity and the onset of deoxyribonucleic acid synthesis in regenerating liver 123–127
MCILWAIN, H. *see* NEWMAN, M. 73–79
MEIJER, A. J. *see* HENSGENS, H. E. S. J. 699–707
MEINHARD, U. *see* VON FIGURA, K. 313–320
MERSMANN, G. *see* ULLRICH, K. 643–650
MESSER, M. *see* DICKSON, J. J. 407–413
MEZQUITA, C. & TENG, C. S. Studies on sex-organ development. Changes in chromatin structure during spermatogenesis in maturing rooster testis as demonstrated by the initiation pattern of ribonucleic acid synthesis *in vitro* 203–210

MINAKAMI, S. *see* HAMASAKI, N. 39–46
MINATOGAWA, Y. *see* NOGUCHI, T. 173–175
MITCHELL, A. D. *see* LINNETT, P. E. 503–510
MOHRI, H. *see* BROWN-WOODMAN, P. D. C. 23–37
MOHRI, T. *see* BROWN-WOODMAN, P. D. C. 23–37
MULHEIRN, L. J. *see* LINNETT, P. E. 503–510
MURTHY, U. S. & ADIGA, P. R. Oestrogen induction of riboflavin-binding protein in immature chicks. Nature of the secretory protein 331–335

NAKHLA, A. M. & MAJUMDAR, A. P. N. Calcitonin-mediated changes in plasma tryptophan and brain 5-hydroxytryptamine and acetylcholinesterase activity in rats 445–448
NEILL, A. R., GRIME, D. W. & DAWSON, R. M. C. Conversion of choline methyl groups through trimethylamine into methane in the rumen 529–535
NEWMAN, M. & MCILWAIN, H. Cellular site and state of combination of the adenosine 3′:5′-cyclic monophosphate persisting after excitation of cerebral tissues 73–79
NICHOLLS, D. G. Calcium transport and proton electrochemical potential gradient in mitochondria from guinea-pig cerebral cortex and rat heart 511–522
NISHII, Y. *see* FUKUSHIMA, M. 495–502
NOFF, D. *see* EDELSTEIN, S. 227–233
NOGUCHI, T., MINATOGAWA, Y., TAKADA, Y., OKUNO, E. & KIDO, R. Subcellular distribution of pyruvate (glyoxylate) aminotransferases in rat liver 173–175
NORTHCOTE, D. H. *see* GREEN, J. R. 599–608

O'KEEFFE, D. T. & ANTHONY, C. The microbial metabolism of C_1 compounds. The stoicheiometry of respiration-driven proton translocation in *Pseudomonas* AM1 and in a mutant lacking cytochrome *c* 561–567
OKUNO, E. *see* NOGUCHI, T. 173–175
ORLOWSKI, M. & WILK, S. Synthesis of ophthalmic acid in liver and kidney *in vivo* 415–419
OSMUNDSEN, H., BILLINGTON, D., TAYLOR, J. R. & SHERRATT, H. S. A. The effects of hypoglycin on glucose metabolism in the rat. A kinetic study *in vivo* with [U-^{14}C,2-^{3}H]glucose 337–342
OSSELTON, M. D. *see* LINNETT, P. E. 503–510
OZAND, P. T., REED, W. D., HAWKINS, R. L., STEVENSON, J. H., TILDON, J. T. & CORNBLATH, M. Effect of L-alanine infusion on gluconeogenesis and ketogenesis in the rat *in vivo* 583–591

PARKE, D. V. *see* BREWSTER, D. 257–264
PARKER, M. G., SCRACE, G. T. & MAINWARING, W. I. P. Testosterone regulates the synthesis of major proteins in rat ventral prostate 115–121
PARRY, D. G. & TAYLOR, K. W. Proinsulin biosynthesis in broken-cell preparations of islets of Langerhans 523–527
PEARSON, J. D., CARLETON, J. S., HUTCHINGS, A. & GORDON, J. L. Uptake and metabolism of adenosine by pig aortic endothelial and smooth-muscle cells in culture 265–271
PEGG, A. E., CONOVER, C. & WRONA, A. Effects of aliphatic diamines on rat liver ornithine decarboxylase activity 651–660
PHILLIPS, J. H. 5-Hydroxytryptamine transport by the bovine chromaffin-granule membrane 673–679
PHILLIPS, J. H. & ALLISON, Y. P. Proton translocation by the bovine chromaffin-granule membrane 661–672
PUSCHETT, J. B. *see* EDELSTEIN, S. 227–233

RADDA, G. K. *see* BUSBY, S. J. W. 103–114
RADIK, J. *see* COX, G. B. 593–598
RANDLE, P. J. *see* FODEN, S. 615–625; LACEY, J. H. 551–560
REED, W. D. *see* OZAND, P. T. 583–591
RÉMÉSY, C., DEMIGNÉ, C. & AUFRÈRE, J. Inter-organ relationships between glucose, lactate and amino acids in rats fed on high-carbohydrate or high-protein diets 321–329
RICHARDS, R. E. *see* BUSBY, S. J. W. 103–114
RISTELI, J., TUDERMAN, L., TRYGGVASON, K. & KIVIRIKKO, K. I. Effect of hepatic injury on prolyl 3-hydroxylase and 4-hydroxylase activities in rat liver and on immunoreactive prolyl 4-hydroxylase concentrations in the liver and serum 129–135
ROBINSON, A. M. & WILLIAMSON, D. H. Control of glucose metabolism in isolated acini of the lactating mammary gland of the rat. Effects of oleate on glucose utilization and lipogenesis 609–613
RODRIGUEZ-SEGADE, S., FREIRE, M. & CARRION, A. Regulation of the oxidative phase of the pentose phosphate cycle in mussels 577–582
ROSS, B. D. & BULLOCK, S. The metabolic fate of glutamine nitrogen in the perfused rat kidney 177–179
ROUGHAN, P. G. *see* SLACK, C. R. 421–433, 437–439

SAVOLAINEN, M. J. *see* HILTUNEN, J. K. 235–240
SCHWOCH, G. Differential activation of type-I and type-II adenosine 3′:5′-cyclic monophosphate-dependent protein kinases in liver of glucagon-treated rats 469–477
SCOTT, F. W. & FORSDYKE, D. R. The rate of deoxyribonucleic acid synthesis by cultured Chinese-hampster ovary cells. An application of isotope-dilution analysis 545–549
SCRACE, G. T. *see* PARKER, M. G. 115–121
SEAR, C. H. J., KEWLEY, M. A., JONES, C. J. P., GRANT, M. E. & JACKSON, D. S. The identification of glycoproteins associated with elastic-tissue microfibrils 715–718
SEELEY, P. J. *see* BUSBY, S. J. W. 103–114
SETCHENSKA, M. S. & ARNSTEIN, H. R. V. Changes in the lactate dehydrogenase isoenzyme pattern during differentiation of rabbit bone-marrow erythroid cells 193–201
SHERRATT, H. S. A. *see* OSMUNDSEN, H. 337–342
SIHRA, C. K. *see* WILLIAMS-SMITH, D. L. 365–371
SINAI, L. *see* EDELSTEIN, S. 227–233
SJÖHOLM, I. *see* LJUNGSTEDT, I. 161–165
SLACK, C. R. & ROUGHAN, P. G. Rapid temperature-induced changes in the fatty acid composition of certain lipids in developing linseed and soya-bean cotyledons 437–439
SLACK, C. R., ROUGHAN, P. G. & BALASINGHAM, N. Labelling of glycerolipids in the cotyledons of developing oilseeds by [1-^{14}C]acetate and [2-^{3}H]glycerol 421–433

SMITH, R. L. & BYGRAVE, F. L. Changes in the response of mitochondrial calcium transport to exogenous phosphate during development in flight muscle of the sheep blowfly *Lucilia cuprina* 81–85
SODEK, J. *see* LIMEBACK, H. F. 63–71
SPEAKE, B. K. & WHITE, D. A. The formation of lipid-linked sugars as intermediates in glycoprotein synthesis in rabbit mammary gland 273–283
SPENCER, R., CHARMAN, M., WILSON, P. W. & LAWSON, D. E. M. The relationship between vitamin D-stimulated calcium transport and intestinal calcium-binding protein in the chicken 93–101
STEVENSON, J. H. *see* OZAND, P. T. 583–591
SUDA, T. *see* FUKUSHIMA, M. 495–502
SUTER, D. *see* BROWN-WOODMAN, P. D. C. 23–37
SUZUKI, M. *see* FUKUSHIMA, M. 495–502
SWANK, R. T. *see* CLEVELAND, C. E. 249–256

TAGER, J. M. *see* HENSGENS, H. E. S. J. 699–707
TAI, H.-H., YUAN, B. & WU, A. T. Transformation of arachidonate into 6-oxoprostaglandin $F_{1\alpha}$, thromboxane B_2 and prostaglandin E_2 by sheep lung microsomal fraction 441–444
TAKADA, Y. *see* NOGUCHI, T. 173–175
TAYLOR, J. R. *see* OSMUNDSEN, H. 337–342
TAYLOR, K. W. *see* PARRY, D. G. 523–527
TENG, C. S. *see* MEZQUITA, C. 203–210
THEIL, E. C. & CALVERT, K. T. The effect of copper excess on iron metabolism in sheep 137–143
THOMAS, P., DAVIES, P. & GRIFFITHS, K. Androgenic regulation of elongation of polyribonucleotide chains on rat ventral-prostate chromatin 211–218
TILDON, J. T. *see* OZAND, P. T. 583–591
TRYGGVASON, K. *see* RISTELI, J. 129–135
TUDERMAN, L. *see* RISTELI, J. 129–135

ULLRICH, K., MERSMANN, G., WEBER, E. & VON FIGURA, K. Evidence for lysosomal enzyme recognition by human fibroblasts via a phosphorylated carbohydrate moiety 643–650
URBANO, P. *see* VANNUCCHI, S. 185–187

VAN DER MOLEN, H. J. *see* JANSZEN, F. H. A. 9–15
VAN DRIEL, M. J. A. *see* JANSZEN, F. H. A. 9–15
VAN ELDEN, W. *see* DUNLOP, D. S. 637–642
VANNUCCHI, S., DEL ROSSO, M., CELLA, C., URBANO, P. & CHIARUGI, V. Surface glycosaminoglycans and calcium distribution in 3T3 cells 185–187
VIÑA, J., HEMS, R. & KREBS, H. A. Maintenance of glutathione content in isolated hepatocytes 627–630
VIÑA, J., HEMS, R. & KREBS, H. A. Reaction of formiminoglutamate with liver glutamate dehydrogenase 711–713
VON FIGURA, K., KRESSE, H., MEINHARD, U. & HOLTFRERICH, D. Studies on secretion and endocytosis of macromolecules by cultivated skin fibroblasts. Effects of anti-microtubular agents on secretion and endocytosis of lysosomal hydrolases and of sulphated glycosaminoglycans 313–320
VON FIGURA, K. *see also* ULLRICH, K. 643–650

WAGNER, K. R., KAUFFMAN, F. C. & MAX, S. R. The pentose phosphate pathway in regenerating skeletal muscle 17–22
WAŁAJTYS-RODE, E. I. *see* WOJTCZAK, A. B. 379–385
WEBER, E. *see* ULLRICH, K. 643–650
WENNER, C. E. *see* CHARLTON, R. R. 537–544
WHITE, D. A. The formation of lipid-linked sugars by cell-free preparations of lactating rabbit mammary gland 479–486
WHITE, D. A. *see also* SPEAKE, B. K. 273–283
WHITE, I. G. *see* BROWN-WOODMAN, P. D. C. 23–37
WILK, S. *see* ORLOWSKI, M. 415–419
WILLIAMSON, D. H. *see* ROBINSON, A. M. 609–613
WILLIAMSON, J. R. *see* HENSGENS, H. E. S. J. 699–707
WILLIAMS-SMITH, D. L., HEATHCOTE, P., SIHRA, C. K. & EVANS, M. C. W. Quantitative electron-paramagnetic-resonance measurements of the electron-transfer components of the Photosystem-I reaction centre. The free-radical signal I and the bound iron–sulphur centre A 365–371
WILLIAMS-SMITH, D. L. *see also* HEATHCOTE, P. 373–378
WILSON, J. T. *see* CHRASTIL, J. 693–698
WILSON, P. W. *see* SPENCER, R. 93–101
WOJTCZAK, A. B., WAŁAJTYS-RODE, E. I. & GEELEN, M. J. H. Interrelations between ureogenesis and gluconeogenesis in isolated hepatocytes. The role of anion transport and the competition for energy 379–385
WOOD, S. G. & GOTTLIEB, D. Evidence from cell-free systems for differences in the sterol biosynthetic pathway of *Rhizoctonia solani* and *Phytophthora cinnamomi* 355–363
WOOD, S. G. & GOTTLIEB, D. Evidence from mycelial studies for differences in the sterol biosynthetic pathway of *Rhizoctonia solani* and *Phytophthora cinnamomi* 343–354
WRONA, A. *see* PEGG, A. E. 651–660
WU, A. T. *see* TAI, H.-H. 441–444
WYBORNY, L. E., KRITCHER, E. M. & LUCHI, R. J. Synthesis of guinea-pig cardiac myosin as measured by constant infusion 189–192

YUAN, B. *see* TAI, H.-H. 441–444

ZUBATOV, A. S. *see* BAKALKIN, G. Y. 569–576

Index of Subjects

Acetate, incorporation of glycerol and, into glycerolipids of developing cotyledons of soya-bean, linseed and safflower seeds (Slack, C. R., Roughan, P. G. & Balasingham, N.) 421–433

Acetylcholinesterase, calcitonin-mediated changes in the concentration of tryptophan in rat plasma and in the concentration of 5-hydroxytryptamine and the activity of, in rat brain (Nakhla, A. M. & Majumdar, A. P. N.) 445–448

Acinar cells, mammary-gland, rat, lactating, isolated, effects of oleate on the utilization of glucose and lipogenesis in (Robinson, A. M. & Williamson, D. H.) 609–613

Acylcarnitines, oxidation of fatty acids and transport of carnitine and, by young adult and senescent rat heart mitochondria (Hansford, R. G.) 285–295

Adenosine 3′:5′-cyclic monophosphate, subcellular site and state of combination of, persisting after electrical stimulation of superfused guinea-pig cerebral-cortex slices (Newman, M. & McIlwain, H.) 73–79

Adenosine triphosphatase, involvement of, in the translocation of protons by ox adrenal-gland-medulla chromaffin-granule membrane (Phillips, J. H. & Allison, Y. P.) 661–672

Adenosine triphosphatase, involvement of, in the transport of 5-hydroxytryptamine by ox adrenal-gland-medulla chromaffin-granule membrane (Phillips, J. H.) 673–679

Adenosine triphosphatase, magnesium ion-stimulated, *Escherichia coli* K12, genetic complementation between two mutant *unc* alleles (*uncA401* and *uncD409*) affecting the F_1 portion of (Cox, G. B., Downie, J. A., Gibson, F. & Radik, J.) 593–598

Adenosine triphosphatase, mitochondrial, heart, ox, specific inhibition by citreoviridin of the activity of (Linnett, P. E., Mitchell, A. D., Osselton, M. D., Mulheirn, L. J. & Beechey, R. B.) 503–510

Adenosine, uptake and metabolism of, by pig aortic endothelial cells and smooth-muscle cells in culture (Pearson, J. D., Carleton, J. S., Hutchings, A. & Gordon, J. L.) 265–271

Adipocytes, adipose-tissue, rat, influence of the size of, and the site of the adipose tissue on the formation of triacylglycerols in these tissues of lean and obese animals (Jamdar, S. C.) 153–160

Adipose tissue, guinea-pig, activity of clearing-factor lipase in, of animals exposed to different dietary fats during postnatal development (Cryer, A., Kirtland, J., Jones, H. M. & Gurr, M. I.) 169–172

Adipose tissue, rat, influence of fat-cell size and site of, on the formation of triacylglycerols in these tissues in lean and obese animals (Jamdar, S. C.) 153–160

Adrenal-gland medulla, ox, translocation of protons by the membrane of chromaffin granules from (Phillips, J. H. & Allison, Y. P.) 661–672

Adrenal-gland medulla, ox, transport of 5-hydroxytryptamine by the membrane of chromaffin granules from (Phillips, J. H.) 673–679

Alanine, effects of infusion of, on gluconeogenesis and ketogenesis in the rat *in vivo* (Ozand, P. T., Reed, W. D., Hawkins, R. L., Stevenson, J. H., Tildon, J. T. & Cornblath, M.] 583–591

Alleles, *unc*, mutant, two (*uncA401* and *uncD409*), genetic complementation between, affecting the F_1 portion of *Escherichia coli* K12 magnesium ion-stimulated adenosine triphosphatase (Cox, G. B., Downie, J. A., Gibson, F. & Radik, J.) 593–598

Alpha sarcin, *see* Sarcin, alpha

Amino acids, inter-organ relationships of the metabolism of glucose, lactate and, of rats fed on high-carbohydrate and high-protein diets (Rémésy, C., Demigné, C. & Aufrère, J.) 321–329

Amino acids, labelled, use of constant infusion of, for measurement of the turnover of myosin and other muscle proteins in guinea-pig heart (Wyborny, L. E., Kritcher, E. M. & Luchi, R. J.) 189–192

L-2-Amino-3-methylenecyclopropylpropionate (hypoglycin), kinetic study of the effects of, on the metabolism of glucose in the rat *in vivo* (Osmundsen, H., Billington, D., Taylor, J. R. & Sherratt, H. S. A.) 337–342

Androgens, regulation by, of the biosynthesis of major proteins in rat ventral prostate gland (Parker, M. G., Scrace, G. T. & Mainwaring, W. I. P.) 115–121

Androgens, regulation by, of the elongation of polyribonucleotide chains on rat ventral-prostate-gland chromatin (Thomas, P., Davies, P. & Griffiths, K.) 211–218

Anions, roles of the competition for energy and the transport of, in the interrelationships between the control of ureogenesis and gluconeogenesis in isolated rat hepatocytes (Wojtczak, A. B., Wałajtys-Rode, E. I. & Geelen, M. J. H.) 379–385

Antibody, specific, horse, detection and separation of human lymphocytes by use of, immobilized in microparticles (Ljungstedt, I., Ekman, B. & Sjöholm, I.) 161–165

Anti-(human lymphocyte) globulin, horse, detection and separation of human lymphocytes by use of, immobilized in microparticles (Ljungstedt, I., Ekman, B. & Sjöholm, I.) 161–165

Aortic endothelial cells, pig, uptake and metabolism of adenosine by pig smooth-muscle cells and, in culture (Pearson, J. D., Carleton, J. S., Hutchings, A. & Gordon, J. L.) 265–271

Arachidonate, transformation of, into 6-oxoprostaglandin $F_{1\alpha}$, thromboxane B_2 and prostaglandin E_2 by sheep lung microsomal fraction (Tai, H.-H., Yuan, B. & Wu, A. T.) 441–444

Ascites-tumour cells, Ehrlich, role of respiratory substrates, inorganic phosphate and temperature in the transport of calcium ions by (Charlton, R. R. & Wenner, C. E.) 537–544

Ascorbate, contribution of cytochromes and proteins to the effect of, on artificial and rat liver microsomal hydroxylating systems containing oxygen and hydrogen peroxide (Chrastil, J. & Wilson, J. T.) 693–698

Aspartate, conversion of N^4-ethyl-L-asparagine into, by cell-free extracts of *Pseudomonas stutzeri* (Dineen, R. W. & Gray, D. O.) 487–493

Bacillus caldolyticus, energy-dependence of the oxidation of succinate by membrane vesicles from (Dawson, A. G. & Chappell, J. B.) 395–405

Bean, soya (*Glycine max*), incorporation of acetate and glycerol into glycerolipids of developing cotyledons of, and other oilseeds (Slack, C. R., Roughan, P. G. & Balasingham, N.) 421–433

Bean, soya (*Glycine max*), rapid temperature-induced changes in the composition of fatty acids of glycerolipids of developing cotyledons of linseed seeds and (Slack, C. R. & Roughan, P. G.) 437–439

Bilirubin, use of [^{18}O]oxygen in a study of the catabolism of haem and the formation of, in the rat *in vivo* (Brown, S. B. & King, R. F. G. J.) 297–311

Blood plasma, calcitonin-mediated changes in the concentration of tryptophan in, and in the concentration of 5-hydroxytryptamine and the activity of acetylcholinesterase in the brain (Nakhla, A. M. & Majumdar, A. P. N.) 445–448

Blood, rat, comparison of α-methylphenylalanine and *p*-chlorophenylalanine as inducers of chronic high concentrations of phenylalanine in, during postnatal development (DelValle, J. A., Dienel, G. & Greengard, O.) 449–459

Blood, rat, kinetic study of the effects of hypoglycin on the concentration of glucose in, *in vivo* (Osmundsen, H., Billington, D., Taylor, J. R. & Sherratt, H. S. A.) 337–342

Blood serum, rat, effects of hepatic injury induced by the administration of dimethylnitrosamine on the activities of prolyl 3-hydroxylase and prolyl 4-hydroxylase in rat liver and on the concentration of immunoreactive prolyl 4-hydroxylase in, and liver (Risteli, J., Tuderman, L., Tryggvason, K. & Kivirikko, K. I.) 129–135

Blowfly (*Lucilia cuprina*), changes in the response to exogenous inorganic phosphate of the transport of calcium ions by flight-muscle mitochondria from, during development (Smith, R. L. & Bygrave, F. L.) 81–85

Bone marrow, rabbit, changes in the lactate dehydrogenase isoenzyme pattern during differentiation of erythroid cells of (Setchenska, M. S. & Arnstein, H. R. V.) 193–201

Brain cortex, guinea-pig, subcellular site and state of combination of adenosine 3′:5′-cyclic monophosphate persisting after electrical stimulation of superfused slices of (Newman, M. & McIlwain, H.) 73–79

Brain cortex, guinea-pig, transport of calcium ions and electrochemical potential gradient of protons in mitochondria from, and rat heart (Nicholls, D. G.) 511–522

Brain, rat, calcitonin-mediated changes in the concentration of tryptophan in plasma and in the concentration of 5-hydroxytryptamine and the activity of acetylcholinesterase in (Nakhla, A. M. & Majumdar, A. P. N.) 445–448

Brain, rat, changes in the activity of mitochondrial creatine kinase in, during postnatal development (Booth, R. F. G. & Clark, J. B.) 145–151

Brain, rat, rates of degradation of protein in regions of, *in vivo* during postnatal development (Dunlop, D. S., van Elden, W. & Lajtha, A.) 637–642

Bupivacaine, changes in the activities of enzymes involved in the pentose phosphate pathway in rat skeletal muscle during regeneration after the administration of (Wagner, K. R., Kauffman, F. C. & Max, S. R.) 17–22

Cadmium-thionein, induction of the biosynthesis of, in isolated rat liver cells (Hidalgo, H. A., Koppa, V. & Bryan, S. E.) 219–225

Calcification, stimulation of the precipitation of calcium phosphate by matrix vesicles of chick cartilage during (Felix, R., Herrmann, W., & Felisch, H.) 681–691

Calcitonin, mediation by, of changes in the concentration of tryptophan in rat plasma and in the concentration of 5-hydroxytryptamine and the activity of acetylcholinesterase in rat brain (Nakhla, A. M. & Majumdar, A. P. N.) 445–448

Calcium ion-binding protein, relationship between vitamin D-stimulated transport of calcium ions in chicken small intestine (Spencer, R., Charman, M., Wilson, P. W. & Lawson, D. E. M.) 93–101

Calcium ions, changes in the response to exogenous inorganic phosphate of the transport of, by blowfly flight-muscle mitochondria during development (Smith, R. L. & Bygrave, F. L.) 81–85

Calcium ions, composition of the surface glycosaminoglycans of mouse 3T3 cells and the distribution of, between the intra- and ecto-cellular compartments (Vannucchi, S., del Rosso, M., Cella, C., Urbano, P. & Chiarugi, V.) 185–18)

Calcium ions, metabolism of, in isolated rat hepatocytes (Foden, S. & Randle, P. J.) 615–625

Calcium ions, properties of the energy-dependent transport of, by rat liver microsomal fraction as revealed by initial-rate measurements (Bygrave, F. L.) 87–91

Calcium ions, relationship between vitamin D-stimulated transport of, and calcium ion-binding protein in chicken small intestine (Spencer, R., Charman, M., Wilson, P. W. & Lawson, D. E. M.) 93–101

Calcium ions, role of respiratory substrates, inorganic phosphate and temperature in the transport of, by Ehrlich ascites-tumour cells (Charlton, R. R. & Wenner, C. E.) 537–544

Calcium ions, transport of, and electrochemical potential gradient of protons in guinea-pig cerebral-cortex and rat heart mitochondria (Nicholls, D. G.) 511–522

Calcium, metabolism of cholecalciferol and expression of vitamin D activity in rats fed on diets with low contents of phosphorus and of (Edelstein, S., Noff, D., Sinai, L., Harell, A., Puschett, J. B., Golub, E. E. & Bronner, F.) 227–233

Calcium phosphate, stimulation of the precipitation of, by matrix vesicles of chick cartilage (Felix, R., Herrmann, W. & Felisch, H.) 681–691

Carbohydrate, inter-organ relationships of the metabolism of glucose, lactate and amino acids in rats fed on diets with high contents of protein and of (Rémésy, C., Demigné, C. & Aufrère, J.) 321–329

Carbohydrate moiety, phosphorylated, evidence for recognition of mammalian lysosomal enzymes via, by human fibroblasts (Ullrich, K., Mersmann, G., Weber, E. & von Figura, K.) 643–650

Carnitine, oxidation of fatty acids and transport of acylcarnitines and, by young adult and senescent rat heart mitochondria (Hansford, R. G.) 285–295

Carthamus tinctorious, *see* Safflower

Cartilage, chick, stimulation of the precipitation of calcium phosphate by matrix vesicles of (Felix, R., Herrmann, W. & Fleisch, H.) 681–691

Casein, formation of lipid-linked sugars as intermediates in the biosynthesis of, and other glycoproteins in lactating rabbit mammary gland (Speake, B. K. & White, D. A.) 273–283

Catecholamine-storage granules, adrenal-gland-medulla, ox, translocation of protons by the membrane of (Phillips, J. H. & Allison, Y. P.) 661–672

Catecholamine-storage granules, adrenal-gland-medulla, ox, transport of 5-hydroxytryptamine by the membrane of (Phillips, J. H.) 673–679

Cell cycle, shortening of, and reappearance of pools of deoxyribonucleoside triphosphates during vitamin B_{12}-induced unbalanced growth of *Euglena gracilis* (Goetz, G. H. & Carell, E. G.) 631–636

Cells, ascites-tumour, Ehrlich, role of respiratory substrates, inorganic phosphate and temperature in the transport of calcium ions by (Charlton, R. R. & Wenner, C. E.) 537–544

Cells, endothelial, aortic, pig, uptake and metabolism of adenosine by pig smooth-muscle cells and, in culture (Pearson, J. D., Carleton, J. S., Hutchings, A. & Gordon, J. L.) 265–271

Cells, fibroblast, *see* Fibroblasts

Cells, ovary, Chinese-hamster, cultured, application of isotope-dilution analysis to measurement of the rate of biosynthesis of deoxyribonucleic acid by (Scott, F. W. & Forsdyke, D. R.) 545–549

Cells, smooth-muscle, pig, uptake and metabolism of adenosine by pig aortic endothelial cells and, in culture (Pearson, J. D., Carleton, J. S., Hutchings, A. & Gordon, J. L.) 265–271

Cells, 3T3, mouse, composition of the surface glycosaminoglycans of, and the distribution of calcium ions between the intra- and ecto-cellular compartments (Vannucchi, S., del Rosso, M., Cella, C., Urbano, P. & Chiarugi, V.) 185–187

Cells, *see also* Fibroblasts

Central nervous system, *see* Nervous system, central

Cerebellum, rat, rates of degradation of protein in, and other regions of the central nervous system *in vivo* during postnatal development (Dunlop, D. S., van Elden, W. & Lajtha, A.) 637–642

Cerebral cortex, guinea-pig, subcellular site and state of combination of adenosine 3′:5′-cyclic monophosphate persisting after electrical stimulation of superfused slices of (Newman, M. & McIlwain, H.) 73–79

Cerebral cortex, guinea-pig, transport of calcium ions and electrochemical potential gradient of protons in mitochondria from, and rat heart (Nicholls, D. G.) 511–522

Cerebrum, rat, rates of degradation of protein in, and other regions of the central nervous system *in vivo* during postnatal development (Dunlop, D. S., van Elden, W. & Lajtha, A.) 637–642

Chick, embryo, metabolism of poly(adenosine diphosphate ribose) and regulation by oxygen of the growth of myocardial cells of the heart of (Ghani, Q. P. & Hollenberg, M.) 387–394

Chick, immature, induction by oestrogens of the biosynthesis of riboflavin-binding protein in liver of (Murthy, U. S. & Adiga, P. R.) 331–335

Chick, stimulation of the precipitation of calcium phosphate by matrix vesicles of cartilage from (Felix, R., Herrmann, W. & Fleisch, H.) 681–691

Chicken, relationship between vitamin D-stimulated transport of calcium ions and small-intestinal calcium ion-binding protein in (Spencer, R., Charman, M., Wilson, P. W. & Lawson, D. E. M.) 93–101

α-Chlorohydrin (3-chloropropane-1,2-diol), inhibition by, of metabolism in rat spermatozoa and location of the block in glycolysis (Brown-Woodman, P. D. C., Mohri, H., Mohri, T., Suter, D. & White, I. G.) 23–37

p-Chlorophenylalanine, comparison of α-methylphenylalanine and, as inducers of chronic hyperphenylalaninaemia in the rat during postnatal development (DelValle, J. A., Dienel, G. & Greengard, O.) 449–459

Chlorophyll, reaction-centre (pigment P700), quantitative electron-paramagnetic-resonance measurements of, and the primary electron acceptor X and iron–sulphur centre A of the Photosystem I reaction centre of spinach-leaf chloroplasts (Heathcote, P., Williams-Smith, D. L. & Evans, M. C. W.) 373–378

Chloroplasts, spinach-leaf, quantitative electron-paramagnetic-resonance measurements of the free-radical signal I and the bound iron–sulphur centre A of the Photosystem I reaction centre of (Williams-Smith, D. L., Heathcote, P., Sihra, C. K. & Evans, M. C. W.) 365–371

Chloroplasts, spinach-leaf, quantitative electron-paramagnetic-resonance measurements of the reaction-centre chlorophyll (pigment P700), the primary electron acceptor X and iron–sulphur centre A of the Photosystem I reaction centre of (Heathcote, P., Williams-Smith, D. L. & Evans, M. C. W.) 373–378

3-Chloropropane-1,2-diol (α-chlorohydrin), inhibition by, of metabolism in rat spermatozoa and location of the block in glycolysis (Brown-Woodman, P. D. C., Mohri, H., Mohri, T., Suter, D. & White, I. G.) 23–37

Cholecalciferol, comparison of the 25-hydroxylation of 1α-hydroxycholecalciferol and, in perfused rat liver (Fukushima, M., Nishii, Y., Suzuki, M. & Suda, T.) 495–502

Cholecalciferol, metabolism of, and expression of vitamin D activity in rats fed on low-calcium and low-phosphorus diets (Edelstein, S., Noff, D., Sinai, L., Harell, A., Puschett, J. B., Golub, E. E. & Bronner, F.) 227–233

Cholesteryl esters, comparison of the metabolism of, and other components of chylomicrons and chylomicron remnants by perfused rat liver (Gardner, R. S. & Mayes, P. A.) 47–55

Choline, conversion of methyl groups of, via trimethylamine into methane by micro-organisms of sheep rumen (Neill, A. R., Grime, D. W. & Dawson, R. M. C.) 529–535

Chromaffin granules, adrenal-gland-medulla, ox, translocation of protons by the membrane of (Phillips, J. H. & Allison, Y. P.) 661–672

Chromaffin granules, adrenal-gland-medulla, ox, transport of 5-hydroxytryptamine by the membrane of (Phillips, J. H.) 673–679

Chromatin, changes in the structure of, during spermatogenesis in maturing rooster testis as demonstrated by the initiation pattern of the biosynthesis of ribonucleic acid *in vitro* (Mezquita, C. & Teng, C. S.) 203–210

Chromatin, ventral-prostate-gland, rat, regulation by androgens of the elongation of polyribonucleotide chains on (Thomas, P., Davies, P. & Griffiths, K.) 211–218
Chylomicron remnants, comparison of the metabolism of chylomicrons and, by perfused rat liver (Gardner, R. S. & Mayes, P. A.) 47–55
Chylomicrons, comparison of the metabolism of chylomicron remnants and, by perfused rat liver (Gardner, R. S. & Mayes, P. A.) 47–55
Citreoviridin, specific inhibition by, of the activity of ox heart mitochondrial adenosine triphosphatase (Linnett, P. E., Mitchell, A. D., Osselton, M. D., Mulheirn, L. J. & Beechey, R. B.) 503–510
Citric acid cycle, *see* Tricarboxylic acid cycle
Clearing-factor lipase, *see* Lipase, clearing-factor
Collagen, effects of hepatic injury induced by the administration of dimethylnitrosamine on the activities of prolyl 3-hydroxylase and prolyl 4-hydroxylase in rat liver and their relevance to the biosynthesis of (Risteli, J., Tuderman, L., Tryggvason, K. & Kivirikko, K. I.) 129–135
Collagens, nature of, biosynthesized by cultured monkey periodontal-ligament fibroblasts (Limeback, H. F., Sodek, J. & Brunette, D. M.) 63–71
Copper ions, effects of the administration of excess of, on the metabolism of iron in the sheep (Theil, E. C. & Calvert, K. T.) 137–143
Cotyledons, soya-bean and linseed, developing, rapid temperature-induced changes in the composition of fatty acids of glycerolipids of (Slack, C. R. & Roughan, P. G.) 437–439
Cotyledons, soya-bean, linseed and safflower, developing, incorporation of acetate and glycerol into glycerolipids of (Slack, C. R., Roughan, P. G. & Balasingham, N.) 421–433
Creatine kinase, changes in the activity of, in rat brain during postnatal development (Booth, R. F. G. & Clark, J. B.) 145–151
Cyclic adenosine 3′:5′-monophosphate, *see* Adenosine 3′:5′-cyclic monophosphate
Cytochrome *c*, stoicheiometry of the respiration-driven translocation of protons in *Pseudomonas* AM1 and in a mutant lacking (O'Keeffe, D. T. & Anthony, C.) 561–567
Cytochromes, contribution of, and proteins to the effect of ascorbate on artificial and rat liver microsomal hydroxylation systems containing oxygen and hydrogen peroxide (Chrastil, J. & Wilson, J. T.) 693–698

Deoxyribonucleic acid, application of isotope-dilution analysis to measurement of the rate of biosynthesis of, by cultured Chinese-hamster ovary cells (Scott, F. W. & Forsdyke, D. R.) 545–549
Deoxyribonucleic acid, lack of correlation between changes in the activity of ornithine decarboxylase and the time of onset of biosynthesis of, in rat liver during regeneration after partial hepatectomy (McGowan, J. A. & Fausto, N.) 123–127
Deoxyribonucleoside triphosphates, shortening of the cell cycle and reappearance of pools of, during vitamin B_{12}-induced unbalanced growth of *Euglena gracilis* (Goetz, G. H. & Carell, E. F.) 631–636
Development, changes in the response to exogenous inorganic phosphate of the transport of calcium ions by blowfly flight-muscle mitochondria during (Smith, R. L. & Bygrave, F. L.) 81–85
Development, postnatal, activity of clearing-factor lipase in adipose tissue of guinea-pigs exposed to different dietary fats during (Cryer, A., Kirtland, J., Jones, H. M. & Gurr, M. I.) 169–172
Development, postnatal, changes in the activity of rat brain creatine kinase during (Booth, R. F. G. & Clark, J. B.) 145–151
Development, postnatal, comparison of α-methylphenylalanine and *p*-chlorophenylalanine as inducers of chronic hyperphenylalaninaemia in the rat during (DelValle, J. A., Dienel, G. & Greengard, O.) 449–459
Development, postnatal, rates of degradation of protein in regions of the rat central nervous system *in vivo* during (Dunlop, D. S., van Elden, W. & Lajtha, A.) 637–642
Development, postnatal, relationship between the content of sialic acid of the maternal milk and the activity of neuraminidase in small intestine of the suckling rat and other mammalian species during (Dickson, J. J. & Messer, M.) 407–413
Diamines, aliphatic, effects of administration of, on the activity of ornithine decarboxylase in rat liver (Pegg, A. E., Conover, C. & Wrona, A.) 651–660
Dichloroacetate, inhibition by, of gluconeogenesis from lactate in rat kidney-cortex slices (Lacey, J. H. & Randle, P. J.) 551–560
Diet, activity of clearing-factor lipase in adipose tissue of guinea pigs exposed to different fats in, during postnatal development (Cryer, A., Kirtland, J., Jones, H. M. & Gurr, M. I.) 169–173
Diet, potassium-deficient, effects of, on the activities of mouse kidney lysosomal enzymes (Cleveland, C. E. & Swank, R. T.) 249–256
Diets, high-carbohydrate and high-protein, inter-organ relationships of the metabolism of glucose, lactate and amino acids in rats fed on (Rémésy, C., Demigné, C. & Aufrère, J.) 321–329
Diets, low-calcium and low-phosphorus, metabolism of cholecalciferol and expression of vitamin D activity in rats fed on (Edelstein, S., Noff, D., Sinai, L., Harell, A., Puschett, J. B., Golub, E. E. & Bronner, F.) 227–233
Dihydrotestosterone (17β-hydroxy-5α-androstan-3-one), regulation by, of the elongation of polyribonucleotide chains on rat ventral-prostate-gland chromatin (Thomas, P., Davies, P. & Griffiths, K.) 211–218
1,25-Dihydroxycholecalciferol, relationship between transport of calcium ions stimulated by, and calcium ion-binding protein in chicken small intestine (Spencer, R., Charman, M., Wilson, P. W. & Lawson, D. E. M.) 93–101
Dimethylnitrosamine, effects of hepatic injury induced by the administration of, on the activities of prolyl 3-hydroxylase and prolyl 4-hydroxylase in rat liver and on the concentration of immunoreactive prolyl 4-hydroxylase in the liver and serum (Risteli, J., Tuderman, L., Tryggvason, K. & Kivirikko, K. I.) 129–135
Dolichol phosphate mannose, formation of, and lipid-linked oligosaccharide by lactating rabbit mammary-gland microsomal fraction (White, D. A.) 479–486

Ehrlich ascites-tumour cells, role of respiratory substrates, inorganic phosphate and temperature in the transport of calcium ions by (Charlton, R. R. & Wenner, C. E.) 537–544

Elastin, ligamentum-nuchae, ox, identification of glycoproteins associated with microfibrils of (Sear, C. H. J., Kewley, M. A., Jones, C. J. P., Grant, M. E. & Jackson, D. S.) 715–718

Electrical stimulation, subcellulár site and state of combination of adenosine 3′:5′-cyclic monophosphate persisting after, of superfused guinea-pig cerebral-cortex slices (Newman, M. & McIlwain, H.) 73–79

Electron acceptor X, primary, quantitative electron-paramagnetic-resonance measurements of the reaction-centre chlorophyll (pigment P700) and, and iron–sulphur centre A of the Photosystem I reaction centre of spinach-leaf chloroplasts (Heathcote, P., Williams-Smith, D. L. & Evans, M. C. W.) 373–378

Endothelial cells, aortic, pig, uptake and metabolism of adenosine by pig smooth-muscle cells and, in culture (Pearson, J. D., Carleton, J. S., Hutchings, A. & Gordon, J. L.) 265–271

Energy, dependence on, of the oxidation of succinate by *Bacillus caldolyticus* membrane vesicles (Dawson, A. G. & Chappell, J. B.) 395–405

Energy, roles of the transport of anions and the competition for, in the interrelationships between ureogenesis and gluconeogenesis in isolated rat hepatocytes (Wojtczak, A. B., Wałajtys-Rode, E. I. & Geelen, M. J. H.) 379–385

Ergosterol, biosynthesis of, as the terminal compound in the sterol-biosynthetic pathway in *Rhizoctonia solani* (Wood, S. G. & Gottlieb, D.) 343–354

Ergosterol, biosynthesis of, by a cell-free system as the terminal compound in the sterol-biosynthetic pathway of *Rhizoctonia solani* (Wood, S. G. & Gottlieb, D.) 355–363

Erythrocytes, human, transport of phosphoenolpyruvate through the membrane of (Hamasaki, N., Hardjono, I. S. & Minakami, S.) 39–46

Erythrocytes, rabbit, differences in the lactate dehydrogenase isoenzyme pattern of, and reticulocytes (Setchenska, M. S. & Arnsteih, H. R. V.) 193–201

Erythroid cells, bone-marrow, rabbit, changes in the lactate dehydrogenase isoenzyme pattern during differentiation of (Setchenska, M. S. & Arnstein, H. R. V.) 193–201

Escherichia coli K12, genetic complementation between two mutant *unc* alleles (*uncA401* and *uncD409*) affecting the F_1 portion of magnesium ion-stimulated adenosine triphosphatase of (Cox, G. B., Downie, J. A., Gibson, F. & Radik, J.) 593–598

Estradiol, *see* Oestradiol

Estriol, *see* Oestriol

Estrogens, *see* Oestrogens

N^4-Ethyl-L-asparagine, pathway for the metabolism of, in *Pseudomonas stutzeri* (Dineen, R. W. & Gray, D. O.) 487–493

Euglena gracilis, shortening of the cell cycle and reappearance of pools of deoxyribonucleoside triphosphates during vitamin B_{12}-induced unbalanced growth of (Goetz, G. H. & Carell, E. F.) 631–636

Fat-cells, adipose-tissue, rat, influence of the size of, and the site of the adipose tissue on the formation of triacylglycerols in these tissues of lean and obese animals (Jamdar, S. C.) 153–160

Fats, dietary, different, activity of clearing-factor lipase in adipose tissue of guinea pigs exposed to, during postnatal development (Cryer, A., Kirtland, J., Jones, H. M. & Gurr, M. I.) 169–172

Fatty acids, changes in the rate of biosynthesis of, in rat liver during regeneration after partial hepatectomy (Gove, C. D. & Hems, D. A.) 1–8

Fatty acids, effects of pent-4-enoate on cellular redox state, glycolysis and oxidation of, in isolated perfused rat heart (Hiltunen, J. K., Jauhonen, V. P., Savolainen, M. J. & Hassinen, I. E.) 235–240

Fatty acids, rapid temperature-induced changes in the composition of, of glycerolipids of developing cotyledons of soya-bean and linseed seeds (Slack, C. R. & Roughan, P. G.) 437–439

Fatty acids, transport of carnitine and acylcarnitines and oxidation of, by young adult and senescent rat heart mitochondria (Hansford, R. G.) 285–295

Ferritin, effect of the administration of excess of copper ions on the metabolism of, and other iron compounds in the sheep (Theil, E. C. & Calvert, K. T.) 137–143

Fibroblasts, human, evidence for recognition of mammalian lysosomal enzymes via a phosphorylated carbohydrate moiety by (Ullrich, K., Mersmann, G., Weber, E. & von Figura, K.) 643–650

Fibroblasts, periodontal-ligament, monkey, cultured, nature of the collagens biosynthesized by (Limeback, H. F., Sodek, J. & Brunette, D. M.) 63–71

Fibroblasts, skin, human, effects of anti-microtubular agents on the secretion and endocytosis of lysosomal hydrolases and of sulphated glycosaminoglycans by, in culture (von Figura, K., Kresse, H., Meinhard, U. & Holtfrerich, D.) 313–320

Flight muscle, *see* Muscle, flight

Formiminoglutamate, reaction of, with ox liver glutamate dehydrogenase (Viña, J., Hems, R. & Krebs, H. A.) 711–713

Gastrointestinal micro-organisms, role of, in the metabolism of shikimate in the rat (Brewster, D., Jones, R. S. & Parke, D. V.) 257–264

Globulin, anti-(human lymphocyte), horse, detection and separation of human lymphocytes by use of, immobilized in microparticles (Ljungstedt, I., Ekman, B. & Sjöholm, I.) 161–165

Glucagon, differential activation of adenosine 3′:5′-cyclic monophosphate-dependent protein kinases I and II in liver of rats treated with (Schwoch, G.) 469–477

Gluconeogenesis, effects of infusion of alanine on ketogenesis and, in the rat *in vivo* (Ozand, P. T., Reed, W.D., Hawkins, R. L., Stevenson, J. H., Tildon, J. T. & Cornblath, M.) 583–591

Gluconeogenesis, inhibition by dichloroacetate of, from lactate in rat kidney-cortex slices (Lacey, J. H. & Randle, P. J.) 551–560

Gluconeogenesis, roles of the transport of anions and the competition for energy in the interrelationships between the control of ureogenesis and, in isolated rat hepatocytes (Wojtczak, A. B., Wałajtys-Rode, E. I. & Geelen, M. J. H.) 379–385

Gluconeogenesis, ureogenesis and, from proline in isolated rat liver cells (Hensgens, H. E. S. J., Meijer, A. J., Williamson, J. R., Gimpel, J. A. & Tager, J. M.) 699–707

Glucose, changes in the activities of enzymes involved in the pentose phosphate pathway for the metabolism of, in rat skeletal muscle during regeneration after the administration of bupivacaine (Wagner, K. R., Kauffman, F. C. & Max, S. R.) 17–22

Glucose, effects of infusion of alanine on the formation of ketone bodies and, in the rat *in vivo* (Ozand, P. T., Reed, W. D., Hawkins, R. L., Stevenson, J. H., Tildon, J. T. & Cornblath, M.) 583–591

Glucose, effects of oleate on lipogenesis and the utilization of, in isolated lactating rat mammary-gland acinar cells (Robinson, A. M. & Williamson, D. H.) 609–613

Glucose, formation of urea and, from proline in isolated rat liver cell (Hensgens, H. E. S. J., Meijer, A. J., Williamson, J. R., Gimpel, J. A. & Tager, J. M.) 699–707

Glucose, inhibition by dichloroacetate of the formation of, from lactate in rat kidney-cortex slices (Lacey, J. H. & Randle, P. J.) 551–560

Glucose, inter-organ relationships of the metabolism of lactate, amino acids and, of rats fed on high-carbohydrate and high-protein diets (Rémésy, C., Demigné, C. & Aufrère, J.) 321–329

Glucose, kinetic study of the effects of hypoglycin on the metabolism of, in the rat *in vivo* (Osmundsen, H., Billington, D. Taylor, J. R. & Sherratt, H. S. A.) 337–342

Glucose 6-phosphate, phosphorus nuclear-magnetic-resonance studies of compartmentation of inorganic phosphate and, in rat skeletal muscle (Busby, S. J. W., Gadian, D. G., Radda, G. K., Richards, R. E. & Seeley, P. J.) 103–114

Glucose, regulation of the oxidative phase of the pentose phosphate pathway for the metabolism of, in mussel hepatopancreas (Rodriguez-Segade, S., Freire, M. & Carrion, A.) 577–582

Glucose, roles of the transport of anions and the competition for energy in the interrelationships between the control of the formation of urea and, in isolated rat hepatocytes (Wojtczak, A. B., Wałajtys-Rode, E. I. & Geelen, M. J. H.) 379–385

β-Glucuronidase, lysosomal, kidney, mouse, effects of dietary potassium deficiency on the activities of, and other enzymes (Cleveland, C. E. & Swank, R. T.) 249–256

Glutamate dehydrogenase, liver, ox, reaction of formiminoglutamate with (Viña, J., Hems, R. & Krebs, H. A.) 711–713

Glutamine, metabolic fate of the nitrogen of, in perfused rat kidney (Ross, B. D. & Bullock, S.) 177–179

γ-Glutamyl tripeptides, biosynthesis of, in mouse liver and kidney *in vivo* (Orlowski, M. & Wilk, S.) 415–419

Glutathione, reduced, maintenance of the concentration of, in isolated rat hepatocytes (Viña, J., Hems, R. & Krebs, H. A.) 627–630

Glycerol, incorporation of acetate and, into glycerolipids of developing cotyledons of soya-bean, linseed and safflower seeds (Slack, C. R., Roughan, P. G. & Balasingham, N.) 421–433

Glycerolipids, incorporation of acetate and glycerol into, of developing cotyledons of soya-bean, linseed and safflower seeds (Slack, C. R., Roughan, P. G. & Balasingham, N.) 421–433

Glycerolipids, influence of fat-cell size and site of adipose tissue on the biosynthesis of, in these tissues in lean and obese animals (Jamdar, S. C.) 153–160

Glycerolipids, rapid temperature-induced changes in the composition of fatty acids of, of developing cotyledons of soya-bean and linseed seeds (Slack, C. R. & Roughan, P. G.) 437–439

Glycine max, *see* Bean, soya

Glycolysis, effects of pent-4-enoate on cellular redox state, oxidation of fatty acids and, in isolated perfused rat heart (Hiltunen, J. K., Jauhonen, V. P., Savolainen, M. J. & Hassinen, I. E.) 235–240

Glycolysis, inhibition by α-chlorohydrin of, in ram spermatozoa and location of the block in (Brown-Woodman, P. D. C., Mohri, H., Mohri, T., Suter, D. & White, I. G.) 23–37

Glycoproteins, formation of lipid-linked sugars as intermediates in the biosynthesis of, in lactating rabbit mammary gland (Speake, B. K. & White, D. A.) 273–283

Glycoproteins, identification of, associated with ox ligamentum-nuchae elastic-tissue microfibrils (Sear, C. H. J., Kewley, M. A., Jones, C. J. P., Grant, M. E. & Jackson, D. S.) 715–718

Glycoproteins, structure and function of, biosynthesized during the production of slime polysaccharides by membranes of maize-seedling root-cap cells (Green, J. R. & Northcote, D. H.) 599–608

Glycosaminoglycans, sulphated, effects of anti-microtubular agents on the secretion and endocytosis of lysosomal hydrolases and, by human skin fibroblasts (von Figura, K., Kresse, H., Meinhard, U. & Holtfrerich, D.) 313–320

Glycosaminoglycans, surface, 3T3-cell, mouse, composition of, and the distribution of calcium ions between the intra- and ecto-cellular compartments (Vannucchi, S., del Rosso, M., Cella, C., Urbano, P. & Chiarugi, V.) 185–187

Golgi apparatus, root-cap-cell, maize-seedling, structure and function of glycoproteins biosynthesized during the production of slime polysaccharides by (Green, J. R. & Northcote, D. H.) 599–608

Haem, use of [^{18}O]oxygen in a study of the catabolism of, and the formation of bilirubin in the rat *in vivo* (Brown, S. B. & King, R. F. G. J.) 297–311

Heart, chick-embryo, metabolism of poly(adenosine diphosphate ribose) and regulation by oxygen of the growth of myocardial cells of (Ghani, Q. P. & Hollenberg, M.) 387–394

Heart, guinea-pig, use of constant infusion of labelled amino acids for measurement of the turnover of myosin and other muscle proteins in (Wyborny, L. E., Kritcher, E. M. & Luchi, R. J.) 189–192

Heart, ox, specific inhibition by citreoviridin of the activity of mitochondrial adenosine triphosphatase from (Linnett, P. E., Mitchell, A. D., Osselton, M. D., Mulheirn, L. J. & Beechey, R. B.) 503–510

Heart, rat, perfused, isolated, effects of pent-4-enoate on cellular redox state, glycolysis and oxidation of fatty acids in (Hiltunen, J. K., Jauhonen, V. P., Savolainen, M. J. & Hassinen, I. E.) 235–240

Heart, rat, perfused, isolated, effects of pent-4-enoate on intermediary metabolism in (Hiltunen, J. K.) 241–247

Heart, rat, transport of calcium ions and electrochemical potential gradient of protons in mitochondria from, and guinea-pig cerebral cortex (Nicholls, D. G.) 511–522

Heart, rat, young adult and senescent, oxidation of fatty acids and transport of carnitine and acylcarnitines by mitochondria from (Hansford, R. G.) 285–295

Hen, *see* Chicken

Hepatectomy, partial, changes in the rate of biosynthesis of fatty acids in rat liver during regeneration after (Gove, C. D. & Hems, D. A.) 1–8

Hepatectomy, partial, lack of correlation between changes in the activity of ornithine decarboxylase and the time of onset of biosynthesis of deoxyribonucleic acid in rat liver during regeneration after (McGowan, J. A. & Fausto, N.) 123–127

Hepatocytes, rat, isolated, induction of the biosynthesis of cadmium-thionein in (Hidalgo, H. A., Koppa, V. & Bryan, S. E.) 219–225

Hepatocytes, rat, isolated, maintenance of the concentration of reduced glutathione in (Viña, J., Hems, R. & Krebs, H. A.) 627–630

Hepatocytes, rat, isolated, metabolism of calcium ions in (Foden, S. & Randle, P. J.) 615–625

Hepatocytes, rat, isolated, metabolism of proline in (Hensgens, H. E. S. J., Meijer, A. J., Williamson, J. R., Gimpel, J. A. & Tager, J. M.) 699–707

Hepatocytes, rat, isolated, roles of the transport of anions and the competition for energy in the interrelationships between the control of ureogenesis and gluconeogenesis in (Wojtczak, A. B., Wałajtys-Rode, E. I. & Geelen, M. J. H.) 379–385

Hepatopancreas, mussel, regulation of the oxidative phase of the pentose phosphate pathway for the metabolism of glucose in (Rodriguez-Segade, S., Freire, M. & Carrion, A.) 577–582

Histidine aminotransferase, subcellular distribution of serine aminotransferase, phenylalanine aminotransferase and, with pyruvate or glyoxylate as amino acceptor in rat liver (Noguchi, T., Minatogawa, Y., Takada, Y., Okuno, E. & Kido, R.) 173–175

Hydrogen ions, stoicheiometry of the respiration-driven translocation of, in *Pseudomonas* AM1 and in a mutant lacking cytochrome *c* (O'Keeffe, D. T. & Anthony, C.) 561–567

Hydrogen ions, translocation of, by ox adrenal-gland-medulla chromaffin-granule membrane (Phillips, J. H. & Allison, Y. P.) 661–672

Hydrogen ions, transport of calcium ions and electrochemical potential gradient of, in guinea-pig cerebral-cortex and rat heart mitochondria (Nicholls, D. G.) 511–522

Hydrogen peroxide, contribution of cytochromes and proteins to the effect of ascorbate on artificial and rat liver microsomal hydroxylating systems containing oxygen and (Chrastil, J. & Wilson, J. T.) 693–698

Hydrolases, lysosomal, effects of anti-microtubular agents on the secretion and endocytosis of, and of sulphated glycosaminoglycans by human skin fibroblasts in culture (von Figura, K., Kresse, H., Meinhard, U. & Holtfrerich, D.) 313–320

Hydrolases, lysosomal, mammalian, evidence for recognition of, via a phosphorylated carbohydrate moiety by human fibroblasts (Ullrich, K., Mersmann, G., Weber, E. & von Figura, K.) 643–650

17β-Hydroxy-5α-androstan-3-one (dihydrotestosterone), regulation by, of the elongation of polyribonucleotide chains on rat ventral-prostate-gland chromatin (Thomas, P., Davies, P. & Griffiths, K.) 211–218

1α-Hydroxycholecalciferol, comparison of the 25-hydroxylation of cholecalciferol and, in perfused rat liver (Fukushima, M., Nishii, Y., Suzuki, M. & Suda, T.) 495–502

Hydroxylation systems, microsomal, liver, rat, contribution of cytochromes and proteins to the effect of ascorbate on, containing oxygen and hydrogen peroxide (Chrastil, J. & Wilson, J. T.) 693–698

5-Hydroxytryptamine, calcitonin-mediated changes in the concentration of tryptophan in rat plasma and in the concentration of, and the activity of acetylcholinesterase in rat brain (Nakhla, A. M. & Majumdar, A. P. N.) 445–448

5-Hydroxytryptamine, transport of, by ox adrenal-gland-medulla chromaffin-granule membrane (Phillips, J. H.) 673–679

Hyperphenylalaninaemia, chronic, comparison of α-methylphenylalanine and *p*-chlorophenylalanine as inducers of, in the rat during postnatal development (DelValle, J. A., Dienel, G. & Greengard, O.) 449–459

Hypoglycin (L-2-amino-3-methylenecyclopropylpropionate), kinetic study of the effects of, on the metabolism of glucose in the rat *in vivo* (Osmundsen, H., Billington, D., Taylor, J. R. & Sherratt, H. S. A.) 337–342

Inorganic phosphate, *see* Phosphate, inorganic

Insulin precursor, *see* Proinsulin

Insulin, stimulation by metabolic signals produced by purine ribonucleosides of the biosynthesis of proinsulin and secretion of, by isolated mouse pancreatic islets of Langerhans (Jain, K. & Logothetopoulos, J.) 461–467

Intestine, small, chicken, relationship between vitamin D-stimulated transport of calcium ions and calcium ion-binding protein in (Spencer, R., Charman, M., Wilson, P. W. & Lawson, D. E. M.) 93–101

Intestine, small, mammalian, suckling, relationship between the content of sialic acid of the maternal milk and the activity of neuraminidase in (Dickson, J. J. & Messer, M.) 407–413

Intestine, small, rat, inter-organ relationships of the metabolism of glucose, lactate and amino acids in, and other tissues of animals fed on high-carbohydrate and high-protein diets (Rémésy, C., Demigné, C. & Aufrère, J.) 321–329

Iron, effects of the administration of excess of copper ions on the metabolism of, in the sheep (Theil, E. C. & Calvert, K. T.) 137–143

Iron–sulphur centre A, bound, quantitative electron-paramagnetic-resonance measurements of the free-radical signal I and, of the Photosystem I reaction centre of spinach-leaf chloroplasts (Williams-Smith, D. L., Heathcote, P., Sihra, C. K. & Evans, M. C. W.) 365–371
Iron–sulphur centre A, quantitative electron-paramagnetic-resonance measurements of the reaction-centre chlorophyll (pigment P700), the primary electron acceptor X and, of the Photosystem I reaction centre of spinach-leaf chloroplasts (Heathcote, P., Williams-Smith, D. L. & Evans, M. C. W.) 373–378
Islets of Langerhans, pancreatic, mouse, isolated, stimulation by metabolic signals produced by purine ribonucleosides of the biosynthesis of proinsulin and secretion of insulin by (Jain, K. & Logothetopoulos, J.) 461–467
Islets of Langerhans, pancreatic, rabbit, isolated, biosynthesis of proinsulin by broken-cell preparations of (Parry, D. G. & Taylor, K. W.) 523–527

Ketogenesis, effects of infusion of alanine on gluconeogenesis and, in the rat *in vivo* (Ozand, P. T., Reed, W. D., Hawkins, R. L., Stevenson, J. H., Tildon, J. T. & Cornblath, M.) 583–591
Ketone bodies, effects of infusion of alanine on the formation of glucose and, in the rat *in vivo* (Ozand, P. T., Reed, W. D., Hawkins, R. L., Stevenson, J. H., Tildon, J. T. & Cornblath, M.) 583–591
Kidney cortex, rat, inhibition by dichloroacetate of gluconeogenesis from lactate in slices of (Lacey, J. H. & Randle, P. J.) 551–560
Kidney, mouse, biosynthesis of ophthalmic acid in, and liver *in vivo* (Orlowski, M. & Wilk, S.) 415–419
Kidney, mouse, effects of dietary potassium deficiency on the activities of lysosomal enzymes of (Cleveland, C. E. & Swank, R. T.) 249–256
Kidney, rat, perfused, metabolic fate of the nitrogen of glutamine in (Ross, B. D. & Bullock, S.) 177–179
Kidney, sheep, effects of the administration of excess of copper ions on the metabolism of iron in, and other organs (Theil, E. C. & Calvert, K. T.) 137–143

Lactate dehydrogenase, changes in the isoenzyme pattern of, during differentiation of rabbit bone-marrow erythroid cells (Setchenska, M, S. & Arnstein, H. R. V.) 193–201
Lactate, inhibition by dichloroacetate of gluconeogenesis from, in rat kidney-cortex slices (Lacey, J. H. & Randle, P. J.) 551–560
Lactate, inter-organ relationships of the metabolism of glucose, amino acids and, of rats fed on high-carbohydrate and high-protein diets (Rémésy, C., Demigné, C. & Aufrère, J.) 321–329
Lactation, effects of oleate on the utilization of glucose and lipogenesis in isolated rat mammary-gland acinar cells during (Robinson, A. M. & Williamson, D. H.] 609–613
Lactation, formation of lipid-linked sugars as intermediates in the biosynthesis of glycoproteins in rabbit mammary gland during (Speake, B. K. & White, D. A.) 273–283
Lactation, formation of lipid-linked sugars by rabbit mammary-gland microsomal fraction during (White, D. A.) 479–486
Leaves, spinach, quantitative electron-paramagnetic-resonance measurements of the free-radical signal I and the bound iron–sulphur centre A of the Photosystem I reaction centre of chloroplasts from (Williams-Smith, D. L., Heathcote, P., Sihra, C. K. & Evans, M. C. W.) 365–371
Leaves, spinach, quantitative electron-paramagnetic-resonance measurements of the reaction-centre chlorophyll (pigment P700), the primary electron acceptor X and iron–sulphur centre A of the Photosystem I reaction centre of chloroplasts from (Heathcote, P., Williams-Smith, D. L. & Evans, M. C. W.) 373–378
Leydig cells, testis, rat, regulation of the biosynthesis of specific lutropin-induced protein in (Janszen, F. H. A., Cooke, B. A., van Driel, M. J. A. & van der Molen, H. J.) 9–15
Ligament (periodontal) fibroblasts, monkey, cultured, nature of the collagens biosynthesized by (Limeback, H. F., Sodek, J. & Brunette, D. M.) 63–71
Ligamentum nuchae, ox, identification of glycoproteins associated with elastic-tissue microfibrils of (Sear, C. H. J., Kewley, M. A., Jones, C. J. P., Grant, M. E. & Jackson, D. S.) 715–718
Linseed (*Linum usitatissimum*) seeds, incorporation of acetate and glycerol into glycerolipids of developing cotyledons of, and other oilseeds (Slack, C. R., Roughan, P. G. & Balasingham, N.) 421–433
Linseed (*Linum usitatissimum*) seeds, rapid temperature-induced changes in the composition of fatty acids of glycerolipids of developing cotyledons of soya bean and (Slack, C. R. & Roughan, P. G.) 437–439
Linum usitatissimum, *see* Linseed
Lipase, clearing-factor, activity of, in adipose tissue of guinea pigs exposed to different dietary fats during postnatal development (Cryer, A., Kirtland, J., Jones, H. M. & Gurr, M. I.) 169–172
Lipid, formation of sugars linked to, as intermediates in the biosynthesis of glycoproteins in lactating rabbit mammary gland (Speake, B. K. & White, D. A.) 273–283
Lipids, formation of sugars linked to, by lactating rabbit mammary-gland microsomal fraction (White, D. A.) 479–486
Lipogenesis, changes in the rate of, in rat liver during regeneration after partial hepatectomy (Gove, C. D. & Hems, D. A.) 1–8
Lipogenesis, effects of oleate on the utilization of glucose and, in isolated lactating rat mammary-gland acinar cells (Robinson, A. M. & Williamson, D. H.) 609–613
Lipoprotein lipase, *see* Lipase, clearing-factor
Liver cells, rat, isolated, induction of the biosynthesis of cadmium-thionein in (Hidalgo, H. A., Koppa, V. & Bryan, S. E.) 219–225
Liver cells, rat, isolated, maintenance of the concentration of reduced glutathione in (Viña, J., Hems, R. & Krebs, H. A.) 627–630
Liver cells, rat, isolated, metabolism of calcium ions in (Foden, S. & Randle, P. J.) 615–625
Liver cells, rat, isolated, metabolism of proline in (Hensgens, H. E. S. J., Meijer, A. J., Williamson, J. R., Gimpel, J. A. & Tager, J. M.) 699–707

Liver cells, rat, isolated, roles of the transport of anions and the competition for energy in the interrelationships between the control of ureogenesis and gluconeogenesis in (Wojtczak, A. B., Wałajtys-Rode, E. I. & Geelen, M. J. H.) 379–385
Liver, chick, immature, induction by oestrogens of the biosynthesis of riboflavin-binding protein in (Murthy, U. S. & Adiga, P. R.) 331–335
Liver, mouse, biosynthesis of ophthalmic acid in, and kidney *in vivo* (Orlowski, M. & Wilk, S.) 415–419
Liver, ox, reaction of formiminoglutamate with glutamate dehydrogenase from (Viña, J., Hems, R. & Krebs, H. A.) 711–613
Liver, rat, changes in the rate of biosynthesis of fatty acids in, during regeneration after partial hepatectomy (Gove, C. D. & Hems, D. A.) 1–8
Liver, rat, contribution of cytochromes and proteins to the effect of ascorbate on hydroxylation systems of microsomal fraction from, containing oxygen and hydrogen peroxide (Chrastil, J. & Wilson, J. T.) 693–698
Liver, rat, differential activation of adenosine 3′:5′-cyclic monophosphate-dependent protein kinases I and II in, of glucagon-treated animals (Schwoch, G.) 469–477
Liver, rat, effects of administration of aliphatic diamines on the activity of ornithine decarboxylase in (Pegg, A. E., Conover, C. & Wrona, A.) 651–660
Liver, rat, effects of hepatic injury induced by the administration of dimethylnitrosamine on the activities of prolyl 3-hydroxylase and prolyl 4-hydroxylase in, and on the concentration of immunoreactive prolyl 4-hydroxylase in the liver and serum (Risteli, J., Tuderman, L., Tryggvason, K. & Kivirikko, K. I.) 129–135
Liver, rat, inter-organ relationships of the metabolism of glucose, lactate and amino acids in, and other tissues of animals fed on high-carbohydrate and high-protein diets (Rémésy, C., Demigné, C. & Aufrère, J.) 321–329
Liver, rat, lack of correlation between changes in the activity of ornithine decarboxylase and the time of onset of biosynthesis of deoxyribonucleic acid in, during regeneration after partial hepatectomy (McGowan, J. A. & Fausto, N.) 123–127
Liver, rat, perfused, comparison of the 25-hydroxylation of cholecalciferol and 1α-hydroxycholecalciferol in (Fukushima, M., Nishii, Y., Suzuki, M. & Suda, T.) 495–502
Liver, rat, perfused, comparison of the metabolism of chylomicrons and chylomicron remnants by (Gardner, R. S. & Mayes, P. A.) 47–55
Liver, rat, properties of the energy-dependent transport of calcium ions by microsomal fraction from, as revealed by initial-rate measurements (Bygrave, F. L.) 87–91
Liver, rat, subcellular distribution of activities of serine aminotransferase, phenylalanine aminotransferase and histidine aminotransferase with pyruvate or glyoxylate as amino acceptor in (Noguchi, T., Minatogawa, Y., Takada, Y., Okuno, E. & Kido, R.) 173–175
Liver, sheep, effects of the administration of excess of copper ions on the metabolism of iron in, and other organs (Theil, E. C. & Calvert, K. T.) 137–143
Lucilia cuprina, *see* Blowfly
Lung, sheep, transformation of arachidonate into 6-oxo-prostaglandin $F_{1\alpha}$, thromboxane B_2 and prostaglandin E_2 by microsomal fraction from (Tai, H.-H., Yuan, B. & Wu, A. T.) 441–444
Luteinizing hormone, *see* Lutropin
Lutropin, regulation of the biosynthesis of specific protein induced by, in rat testis Leydig cells (Janszen, F. H. A., Cooke, B. A., van Driel, M. J. A. & van der Molen, H. J.) 9–15
Lymphocytes, human, detection and separation of, by use of horse anti-(human lymphocyte) globulin immobilized in microparticles (Ljungstedt, L., Ekman, B. & Sjöholm, I.) 161–165
Lysosomes, bone-marrow, rabbit, involvement of enzymes of, in changes in the lactate dehydrogenase isoenzyme pattern during differentiation of erythroid cells (Setchenska, M. S. & Arnstein, H. R. V.) 193–201
Lysosomes, kidney, mouse, effects of dietary potassium deficiency on the activities of enzymes of (Cleveland, C. E. & Swank, R. T.) 249–256
Lysosomes, mammalian, evidence for recognition of enzymes from, via a phosphorylated carbohydrate moiety by human fibroblasts (Ullrich, K., Mersmann, G., Weber, E. & von Figura, K.) 643–650
Lysosomes, skin-fibroblast, human, effects of anti-microtubular agents on the secretion and endocytosis of hydrolases of, and of sulphated glycosaminoglycans by the cells in culture (von Figura, K., Kresse, H., Meinhard, U. & Holtfrerich, D.) 313–320

Macaca fasicularis, *see* Monkey
Maize (*Zea mays*) seedlings, structure and function of glycoproteins biosynthesized during the production of slime polysaccharides by membranes of root-cap cells of (Green, J. R. & Northcote, D. H.) 599–608
Mammary gland, rabbit, lactating, formation of lipid-linked sugars as intermediates in the biosynthesis of glycoproteins in (Speake, B. K. & White, D. A.) 273–283
Mammary gland, rabbit, lactating, formation of lipid-linked sugars by microsomal fraction from (White, D. A.) 479–486
Mammary gland, rat, lactating, effects of oleate on the utilization of glucose and lipogenesis in acinar cells isolated from (Robinson, A. M. & Williamson, D. H.) 609–613
Marcaine, *see* Bupivacaine
Matrix vesicles, cartilage, chick, stimulation of the precipitation of calcium phosphate by (Felix, R., Herrmann, W. & Felisch, H.) 681–691
Membrane, chromaffin-granule, adrenal-gland-medulla, ox, translocation of protons by (Phillips, J. H. & Allison, Y. P.) 661–672
Membrane, chromaffin-granule, adrenal-gland-medulla, ox, transport of 5-hydroxytryptamine by (Phillips, J. H.) 673–679
Membrane, erythrocyte, human, transport of phosphoenolpyruvate through (Hamasaki, N., Hardjono, I. S. & Minakami, S.) 39–46
Membrane vesicles, *Bacillus caldolyticus*, energy-dependence of the oxidation of succinate by (Dawson, A. G. & Chappell, J. B.) 395–405
Membranes, root-cap-cell, maize-seedling, structure and function of glycoproteins biosynthesized during the production of slime polysaccharides by (Green, J. R. & Northcote, D. H.) 599–608

Methane, conversion of methyl groups of choline via trimethylamine into, by micro-organisms of sheep rumen (Neill, A. R., Grime, D. W. & Dawson, R. M. C.) 529–535

Methyl groups, choline, conversion of, via trimethylamine into methane by micro-organisms of sheep rumen (Neill, A. R., Grime, D. W. & Dawson, R. M. C.) 529–535

α-Methylphenylalanine, comparison of *p*-chlorophenylalanine and, as inducers of chronic hyperphenylalaninaemia in the rat during postnatal development (DelValle, J. A., Dienel, G. & Greengard, O.) 449–459

Micro-organisms, gastrointestinal, role of, in the metabolism of shikimate in the rat (Brewster, D., Jones, R. S. & Parke, D. V.) 257–264

Micro-organisms, ruminal, sheep, conversion of methyl groups of choline via trimethylamine into methane by (Neill, A. R., Grime, D. W. & Dawson, R. M. C.) 529–535

Microsomal fraction, liver, rat, contribution of cytochromes and proteins to the effect of ascorbate on hydroxylation systems of, containing oxygen and hydrogen peroxide (Chrastil, J. & Wilson, J. T.) 693–698

Microsomal fraction, liver, rat, properties of the energy-dependent transport of calcium ions by, as revealed by initial-rate measurements (Bygrave, F. L.) 87–91

Microsomal fraction, lung, sheep, transformation of arachidonate into 6-oxoprostaglandin $F_{1\alpha}$, thromboxane B_2 and prostaglandin E_2 by (Tai, H.-H., Yuan, B. & Wu, A. T.) 441–444

Microsomal fraction, mammary-gland, rabbit, lactating, formation of lipid-linked sugars by (White, D. A.) 479–486

Milk, mammalian, maternal, relationship between the content of sialic acid of, and the activity of neuraminidase in the small intestine of the suckling animals (Dickson, J. J. & Messer, M.) 407–413

Mitochondria, brain, rat, changes in the activity of creatine kinase of, during postnatal development (Booth, R. F. G. & Clark, J. B.) 145–151

Mitochondria, cerebral-cortex, guinea-pig, transport of calcium ions and electrochemical potential gradient of protons in rat heart mitochondria and (Nicholls, D. G.) 511–522

Mitochondria, flight-muscle, blowfly, changes in the response to exogenous inorganic phosphate of the transport of calcium ions by, during development (Smith, R. L. & Bygrave, F. L.) 81–85

Mitochondria, heart, ox, specific inhibition by citreoviridin of the activity of adenosine triphosphatase from (Linnett, P. E., Mitchell, A. D., Osselton, M. D., Mulheirn, L. J. & Beechey, R. B.) 503–510

Mitochondria, heart, rat, young adult and senescent, oxidation of fatty acids and transport of carnitine and acylcarnitines by (Hansford, R. G.) 285–295

Mitochondria, liver, rat, metabolism of calcium ions in (Foden, S. & Randle, P. J.) 615–625

Mitochondria, *Saccharomyces cerevisiae*, lability of the products of the biosynthesis of protein in (Bakalkin, G. Y., Kalnov, S. L., Galkin, A. V., Zubatov, A. S. & Luzikov, V. N.) 569–576

Monkey (*Macaca fasicularis*) periodontal-ligament fibroblasts, cultured, nature of the collagens biosynthesized by (Limeback, H. F., Sodek, J., & Brunette, D. M.) 63–71

Muscle, flight, blowfly, changes in the response to exogenous inorganic phosphate of the transport of calcium ions by mitochondria from, during development (Smith, R. L. & Bygrave, F. L.) 81–85

Muscle, heart, guinea-pig, use of constant infusion of labelled amino acids for measurement of the turnover of myosin and other proteins in (Wyborny, L. E., Kritcher, E. M. & Luchi, R. J.) 189–192

Muscle, skeletal, rat, changes in the activities of enzymes involved in the pentose phosphate pathway in, during regeneration after the administration of bupivacaine (Wagner, K. R., Kauffman, F. C. & Max, S. R.) 17–22

Muscle, skeletal, rat, phosphorus nuclear-magnetic-resonance studies of compartmentation of inorganic phosphate and organic phosphates in (Busby, S. J. W., Gadian, D. G., Radda, G. K., Richards, R. E. & Seeley, P. J.) 103–114

Muscle (smooth) cells, pig, uptake and metabolism of adenosine by pig aortic endothelial cells and, in culture (Pearson, J. D., Carleton, J. S., Hutchings, A. & Gordon, J. L.) 265–271

Mussel (*Mytilus edulis*), regulation of the oxidative phase of the pentose phosphate pathway for the metabolism of glucose in the hepatopancreas of (Rodriguez-Segade, S., Freire, M. & Carrion, A.) 577–582

Myocardial cells, heart, chick-embryo, metabolism of poly(adenosine diphosphate ribose) and regulation by oxygen of the growth of (Ghani, Q. P. & Hollenberg, M.) 387–394

Myosin, use of constant infusion of labelled amino acids for measurement of the turnover of, and other muscle proteins in guinea-pig heart (Wyborny, L. E., Kritcher, E. M. & Luchi, R. J.) 189–192

Mytilus edulis, *see* Mussel

Nervous system, central, rat, rates of degradation of protein in regions of, *in vivo* during postnatal development (Dunlop, D. S., van Elden, W. & Lajtha, A.) 637–642

Neuraminidase, relationship between the content of sialic acid of the maternal milk and the activity of, in small intestine of the suckling rat and other mammalian species (Dickson, J. J. & Messer, M.) 407–413

Oestradiol-17β, induction by, of the biosynthesis of riboflavin-binding protein in immature chick liver (Murthy, U. S. & Adiga, P. R.) 331–335

Oestradiol-17β, stimulation by oestriol and, of the biosynthesis of ribonucleic acids in immature rat uterus (Knowler, J. T.) 181–183

Oestriol, stimulation by, of the biosynthesis of ribonucleic acids in immature rat uterus (Knowler, J. T.) 181–183

Oestrogens, induction by, of the biosynthesis of riboflavin-binding protein in immature chick liver (Murthy, U. S. & Adiga, P. R.) 331–335

Oestrogens, stimulation by, of the biosynthesis of ribonucleic acids in immature rat uterus (Knowler, J. T.) 181–183

Oleate, effects of, on the utilization of glucose and lipogenesis in isolated lactating rat mammary-gland acinar cells (Robinson, A. M. & Williamson, D. H.) 609–613
Oligosaccharide, lipid-linked, formation of polyprenyl phosphate mannose and, by lactating rabbit mammary-gland microsomal fraction (White, D. A.) 479–486
Oligosaccharides, lipid-linked, formation of, as intermediates in the biosynthesis of glycoproteins in lactating rabbit mammary gland (Speake, B. K. & White, D. A.) 273–283
Ophthalmic acid, biosynthesis of, in mouse liver and kidney *in vivo* (Orlowski, M. & Wilk, S.) 415–419
Ornithine decarboxylase, effects of administration of aliphatic diamines on the activity of, in rat liver (Pegg, A. E., Conover, C. & Wrona, A.) 651–660
Ornithine decarboxylase, lack of correlation between changes in the activity of, and the time of onset of biosynthesis of deoxyribonucleic acid in rat liver during regeneration after partial hepatectomy (McGowan, J. A. & Fausto, N.) 123–127
Ovary cells, Chinese-hamster, cultured, application of isotope-dilution analysis to measurement of the rate of biosynthesis of deoxyribonucleic acid by (Scott, F. W. & Forsdyke, D. R.) 545–549
6-Oxoprostaglandin $F_{1\alpha}$, transformation of arachidonate into prostaglandin E_2, thromboxane B_2 and, by sheep lung microsomal fraction (Tai, H.-H., Yuan, B. & Wu, A. T.) 441–444
Oxygen, contribution of cytochromes and proteins to the effect of ascorbate on artificial and rat liver microsomal hydroxylating systems containing hydrogen peroxide and (Chrastil, J. & Wilson, J. T.) 693–698
Oxygen, effects of pent-4-enoate on the consumption of, and on cellular redox state, glycolysis and oxidation of fatty acids in isolated perfused rat heart (Hiltunen, J. K., Jauhonen, V. P., Savolainen, M. J. & Hassinen, I. E.) 235–240
Oxygen, metabolism of poly(adenosine diphosphate ribose) and regulation by, of the growth of chick-embryo heart myocardial cells (Ghani, Q. P. & Hollenberg, M.) 387–394
[^{18}O]Oxygen, use of, in a study of the catabolism of haem and the formation of bilirubin in the rat *in vivo* (Brown, S. B. & King, R. F. G. J.) 297–311

Pancreas, mouse, stimulation by metabolic signals produced by purine ribonucleosides of the biosynthesis of proinsulin and secretion of insulin by islets of Langerhans isolated from (Jain, K. & Logothetopoulos, J.) 461–467
Pancreas, rabbit, biosynthesis of proinsulin by broken-cell preparations of islets of Langerhans isolated from (Parry, D. G. & Taylor, K. W.) 523–527
Pent-4-enoate, effects of, on cellular redox state, glycolysis and oxidation of fatty acids in isolated perfused rat heart (Hiltunen, J. K., Jauhonen, V. P., Savolainen, M. J. & Hassinen, I. E.) 235–240
Pent-4-enoate, effects of, on intermediary metabolism in isolated perfused rat heart (Hiltunen, J. K.) 241–247
Pentose phosphate pathway, changes in the activities of enzymes involved in, in rat skeletal muscle during regeneration after the administration of bupivacaine (Wagner, K. R., Kauffman, F. C. & Max, S. R.) 17–22
Pentose phosphate pathway, regulation of the oxidative phase of, for the metabolism of glucose in mussel hepatopancreas (Rodriguez-Segade, S., Freire, M. & Carrion, A.) 577–582
Peptidyl-transfer ribonucleic acid, novel method for assay of the reaction of puromycin with, and its use in studying the mode of action of alpha sarcin and other inhibitors on the biosynthesis of protein by a cell-free system from rabbit reticulocytes (Hobden, A. N. & Cundliffe, E.) 57–61
Peroxide, hydrogen, contribution of cytochromes and proteins to the effect of ascorbate on artificial and rat liver microsomal hydroxylating systems containing oxygen and (Chrastil, J. & Wilson, J. T.) 693–698
pH, intracellular, use of phosphorus nuclear-magnetic-resonance to indicate the presence of inorganic phosphate in rat skeletal muscle in two compartments distinguished by differences in (Busby, S. J. W., Gadian, D. G., Radda, G. K., Richards, R. E. & Seeley, P. J.) 103–114
Phenylalanine aminotransferase, subcellular distribution of serine aminotransferase, histidine aminotransferase and, with pyruvate or glyoxylate as amino acceptor in rat liver (Noguchi, T., Minatogawa, Y., Takada, Y., Okuno, E. & Kido, R.) 173–175
Phenylalanine, comparison of α-methylphenylalanine and *p*-chlorophenylalanine as inducers of chronic high concentrations of, in rat blood during postnatal development (DelValle, J. A., Dienel, G. & Greengard, O.) 449–459
Phenylketonuria, comparison of α-methylphenylalanine and *p*-chlorophenylalanine as inducers of chronic hyperphenylalaninaemia in the rat during postnatal development and suitability of the treated animals as models for (DelValle, J. A., Dienel, G. & Greengard, O.) 449–459
Phosphate, inorganic, exogenous, changes in the response to, of the transport of calcium ions by blowfly flight-muscle mitochondria during development (Smith, R. L. & Bygrave, F. L.) 81–85
Phosphate, inorganic, phosphorus nuclear-magnetic-resonance studies of compartmentation of organic phosphates and, in rat skeletal muscle (Busby, S. J. W., Gadian, D. G., Radda, G. K., Richards, R. E. & Weeley, P. J.) 103–114
Phosphate, inorganic, role of respiratory substrates, temperature and, in the transport of calcium ions by Ehrlich ascites-tumour cells (Charlton, R. R. & Wenner, C. E.) 537–544
Phosphates, organic, phosphorus nuclear-magnetic-resonance studies of compartmentation of inorganic phosphate and, in rat skeletal muscle (Busby, S. J. W., Gadian, D. G., Radda, G. K., Richards, R. E. & Seeley, P. J.) 103–114
Phosphoenolpyruvate, transport of, through the human erythrocyte membrane (Hamasaki, N., Hardjono, I. S. & Minakami, S.) 39–46
Phosphorus, metabolism of cholecalciferol and expression of vitamin D activity in rats fed on diets with low contents of calcium and of (Edelstein, S., Noff, D., Sinai, L., Harell, A., Puschett, J. B., Golub, E. E. & Bronner, F.) 227–233

Phosphorus nuclear magnetic resonance, use of, for the study of compartmentation of inorganic phosphate and, organic phosphates in rat skeletal muscle (Busby, S. J. W., Gadian, D. G., Radda, G. K., Richards, R. E. & Seeley, P. J.) 103–114

Photosystem I reaction centre, chloroplast, spinach-leaf, quantitative electron-paramagnetic-resonance measurements of the free-radical signal I and the bound iron–sulphur centre A of (Williams-Smith, D. L., Heathcote, P., Sihra, C. K. & Evans, M. C. W.) 365–371

Photosystem I reaction centre, chloroplast, spinach-leaf, quantitative electron-paramagnetic-resonance measurements of the reaction-centre chlorophyll (pigment P700), the primary electron acceptor X and iron–sulphur centre A of (Heathcote, P., Williams-Smith, D. L. & Evans, M. C. W.) 373–378

Phytophthora cinnamomi, evidence from cell-free systems for differences in the pathways for the biosynthesis of sterols in *Rhizoctonia solani* and (Wood, S. G. & Gottlieb, D.) 355–363

Phytophthora cinnamomi, evidence from mycelial studies for differences in the pathways for the biosynthesis of sterols in *Rhizoctonia solani* and (Wood, S. G. & Gottlieb, D.) 343–354

Pigment P700 (reaction-centre chlorophyll), quantitative electron-paramagnetic-resonance measurements of, and the primary electron acceptor X and iron–sulphur centre A of the Photosystem I reaction centre of spinach-leaf chloroplasts (Heathcote, P., Williams-Smith, D. L. & Evans, M. C. W.) 373–378

Plasma, rat, calcitonin-mediated changes in the concentration of tryptophan in, and in the concentration of 5-hydroxytryptamine and the activity of acetylcholinesterase in the brain (Nakhla, A. M. & Majumdar, A. P. N.) 445–448

Poly(adenosine diphosphate ribose), metabolism of, and regulation by oxygen of the growth of chick-embryo heart mycardial cells (Ghani, Q. P. & Hollenberg, M.) 387–394

Polyamines, effects of administration of aliphatic diamines on the activity of ornithine decarboxylase and biosynthesis of, in rat liver (Pegg, A. E., Conover, C. & Wrona, A.) 651–660

Polyprenyl phosphate mannose, formation of, and lipid-linked oligosaccharide by lactating rabbit mammary-gland microsomal fraction (White, D. A.) 479–486

Polyribonucleotide chains, regulation by androgens of the elongation of, on rat ventral-prostate-gland chromatin (Thomas, P., Davies, P. & Griffiths, K.) 211–218

Polysaccharides, slime, structure and function of glycoproteins biosynthesized during the production of, by membranes of maize-seedling root-cap cells (Green, J. R. & Northcote, D. H.) 599–608

Potassium, effects of dietary deficiency of, on the activities of mouse kidney lysosomal enzymes (Cleveland, C. E. & Swank, R. T.) 249–256

Procollagens, specificity of the conversion of, into collagens by cultured monkey periodontal-ligament fibroblasts (Limeback, H. F., Sodek, J. & Brunette, D. M.) 63–71

Proinsulin, biosynthesis of, by broken-cell preparations of isolated rabbit pancreatic islets of Langerhans (Parry, D. G. & Taylor, K. W.) 523–527

Proinsulin, stimulation by metabolic signals produced by purine ribonucleosides of the biosynthesis of, and secretion of insulin by isolated mouse pancreatic islets of Langerhans (Jain, K. & Logothetopoulos, J.) 461–467

Proline, metabolism of, in isolated rat liver cells (Hensgens, H. E. S. J., Meijer, A. J., Williamson, J. R., Gimpel, J. A. & Tager, J. M.) 699–707

Prolyl 3-hydroxylase, effects of hepatic injury induced by the administration of dimethylnitrosamine on the activities of prolyl 4-hydroxylase and, in rat liver and on the concentration of immunoreactive prolyl 4-hydroxylase in the liver and serum (Risteli, J., Tuderman, L., Tryggvason, K. & Kivirikko, K. I.) 129–135

Prolyl 4-hydroxylase, effects of hepatic injury induced by the administration of dimethylnitrosamine on the activities of prolyl 3-hydroxylase and, in rat liver and on the concentration of immunoreactive prolyl 4-hydroxylase in the liver and serum (Risteli, J., Tuderman, L., Tryggvason, K. & Kivirikko, K. I.) 129–135

Prostaglandin E_2, transformation of arachidonate into 6-oxoprostaglandin $F_{1\alpha}$, thromboxane B_2 and, by sheep lung microsomal fraction (Tai, H.-H., Yuan, B. & Wu, A. T.) 441–444

Prostate gland, ventral, rat, regulation by androgens of the elongation of polyribonucleotide chains on chromatin from (Thomas, P., Davies, P. & Griffiths, K.) 211–218

Prostate gland, ventral, rat, regulation by testosterone of the biosynthesis of major proteins in (Parker, M. G., Scrace, G. T. & Mainwaring, W. I. P.) 115–121

Protein, calcium ion-binding, relationship between vitamin D-stimulated transport of calcium ions and, in chicken small intestine (Spencer, R., Charman, M., Wilson, P. W. & Lawson, D. E. M.) 93–101

Protein, inter-organ relationships of the metabolism of glucose, lactate and amino acids in rats fed on diets with high contents of carbohydrate and (Rémésy, C., Demigné, C. & Aufrère, J.) 321–329

Protein kinases I and II, adenosine 3′:5′-cyclic monophosphate-dependent, liver, rat, differential activation of, of glucagon-treated animals (Schwoch, G.) 469–477

Protein, lability of the products of the biosynthesis of, in *Saccharomyces cerevisiae* mitochondria 569–576

Protein, lutropin-induced, specific, regulation of the biosynthesis of, in rat testis Leydig cells (Janszen, F. H. A., Cooke, B. A., van Driel, M. J. A. & van der Molen, H. J.) 9–15

Protein, novel method for assay of the reaction of puromycin with peptidyl-transfer ribonucleic acid and its use in studying the mode of action of alpha sarcin and other inhibitors on the biosynthesis of, by a cell-free system from rabbit reticulocytes (Hobden, A. N. & Cundliffe, E.) 57–61

Protein, rates of degradation of, in regions of the rat central nervous system *in vivo* during postnatal development (Dunlop, D. S., van Elden, W. & Lajtha, A.) 637–642

Protein, riboflavin-binding, induction by oestrogens of the biosynthesis of, in immature chick liver (Murthy, U. S. & Adiga, P. R.) 331–335

Proteins, contribution of cytochromes and, to the effect of ascorbate on artificial and rat liver microsomal hydroxylation systems containing oxygen and hydrogen peroxide (Chrastil, J. & Wilson, J. T.) 693–698

Proteins, heart-muscle, guinea-pig, use of constant infusion of labelled amino acids for measurement of the turnover of (Wyborny, L. E., Kritcher, E. M. & Luchi, R. J.) 189–192

Proteins, regulation by testosterone of the biosynthesis of, in rat ventral prostate gland (Parker, M. G., Scrace, G. T. & Mainwaring, W. I. P.) 115–121

Protons, stoicheiometry of the respiration-driven translocation of, in *Pseudomonas* AM1 and in a mutant lacking cytochrome *c* (O'Keeffe, D. T. & Anthony, C.) 561–567

Protons, translocation of, by ox adrenal-gland-medulla chromaffin-granule membrane (Phillips, J. H. & Allison, Y. P.) 661–672

Protons, transport of calcium ions and electrochemical potential gradient of, in guinea-pig cerebral-cortex and rat heart mitochondria (Nicholls, D. G.) 511–522

Pseudomonas AM1, stoicheiometry of the respiration-driven translocation of protons in, and in a mutant lacking cytochrome *c* (O'Keeffe, D. T. & Anthony, C.) 561–567

Pseudomonas stutzeri, pathway for the metabolism of N^4-ethyl-L-asparagine in (Dineen, R. W. & Gray, D. O.) 487–493

Purine ribonucleosides, stimulation by metabolic signals produced by, of the biosynthesis of proinsulin and secretion of insulin by isolated mouse pancreatic islets of Langerhans (Jain, K. & Logothetopoulos, J.) 461–467

Puromycin, novel method for assay of the reaction of, with peptidyl-transfer ribonucleic acid and its use in studying the mode of action of alpha sarcin and other inhibitors on the biosynthesis of protein by a cell-free system from rabbit reticulocytes (Hobden, A. N. & Cundliffe, E.) 57–61

Putrescine, effects of administration of, and other aliphatic diamines on the activity of ornithine decarboxylase in rat liver (Pegg, A. E., Conover, C. & Wrona, A.) 651–660

Red blood cells, *see* Erythrocytes

Redox state, cellular, effects of pent-4-enoate on glycolysis, oxidation of fatty acids and, in isolated perfused rat heart (Hiltunen, J. K., Jauhonen, V. P., Savolainen, M. J. & Hassinen, I. E.) 235–240

Respiration, role of inorganic phosphate, temperature and substrates for, in the transport of calcium ions by Ehrlich ascites-tumour cells (Charlton, R. R. & Wenner, C. E.) 537–544

Respiration, stoicheiometry of the translocation of protons driven by, in *Pseudomonas* AM1 and in a mutant lacking cytochrome *c* (O'Keeffe, D. T. & Anthony, C.) 561–567

Reticulocytes, rabbit, differences in the lactate dehydrogenase isoenzyme pattern of, and erythrocytes (Setchenska, M. S. & Arnstein, H. R. V.) 193–201

Reticulocytes, rabbit, novel method for assay of the reaction of puromycin with peptidyl-transfer ribonucleic acid and its use in studying the mode of action of alpha sarcin and other inhibitors on the biosynthesis of protein by a cell-free system from (Hobden, A. N. & Cundliffe, E.) 57–61

Rhizoctonia solani, evidence from cell-free systems for differences in the pathways for the biosynthesis of sterols in *Phytophthora cinnamomi* and (Wood, S. G. & Gottlieb, D.) 355–363

Rhizoctonia solani, evidence from mycelial studies for differences in the pathways for the biosynthesis of sterols in *Phytophthora cinnamomi* and (Wood, S. G. & Gottlieb, D.) 343–354

Riboflavin-binding protein, induction by oestrogens of the biosynthesis of, in immature chick liver (Murthy, U. S. & Adiga, P. R.) 331–335

Ribonucleic acid, changes in the structure of chromatin during spermatogenesis in maturing rooster testis as demonstrated by the initiation pattern of the biosynthesis of, *in vitro* (Mezquita, C. & Teng, C. S.) 203–210

Ribonucleic acid, regulation by androgens of the elongation of polyribonucleotide chains during the biosynthesis of, on rat ventral-prostate-gland chromatin (Thomas, P., Davies, P. & Griffiths, K.) 211–218

Ribonucleic acid, transfer, peptidyl-, novel method for assay of the reaction of puromycin with, and its use in studying the mode of action of alpha sarcin and other inhibitors on the biosynthesis of protein by a cell-free system from rabbit reticulocytes (Hobden, A. N. & Cundliffe, E.) 57–61

Ribonucleic acids, stimulation by oestriol of the biosynthesis of, in immature rat uterus (Knowler, J. T.) 181–183

Ribonucleosides, purine, stimulation by metabolic signals produced by, of the biosynthesis of proinsulin and secretion of insulin by isolated mouse pancreatic islets of Langerhans (Jain, K. & Logothetopoulos, J.) 461–467

Rooster, maturing, changes in the structure of chromatin during spermatogenesis in testis of, as demonstrated by the initiation pattern of the biosynthesis of ribonucleic acid *in vitro* (Mezquita, C. & Teng, C. S.) 203–210

Root-cap cells, maize-seedling, structure and function of glycoproteins biosynthesized during the production of slime polysaccharides by membranes of (Green, J. R. & Northcote, D. H.) 599–608

Rumen, sheep, conversion of methyl groups of choline via trimethylamine into methane by micro-organisms of (Neill, A. R., Grime, D. W. & Dawson, R. M. C.) 529–535

Saccharomyces cerevisiae, lability of the products of the biosynthesis of protein in mitochondria of (Bakalkin, G. Y., Kalnov, S. L., Galkin, A. V., Zubatov, A. S. & Luzikov, V. N.) 569–576

Safflower (*Carthamus tinctorious*) seeds, incorporation of acetate and glycerol into glycerolipids of developing cotyledons of, and other oilseeds (Slack, C. R., Roughan, P. G. & Balasingham, N.) 421–433

Sarcin, alpha, novel method for assay of the reaction between puromycin and peptidyl-transfer ribonucleic acid and its use in studying the mode of action of, and other inhibitors on the biosynthesis of protein by a cell-free system from rabbit reticulocytes (Hobden, A. N. & Cundliffe, E.) 57–61

Seedlings, maize, structure and function of glycoproteins biosynthesized during the production of slime polysaccharides by membranes of root-cap cells of (Green, J. R. & Northcote, D. H.) 599–608

Seeds, soya-bean and linseed, rapid temperature-induced changes in the composition of fatty acids of glycerolipids of developing cotyledons of (Slack, C. R. & Roughan, P. G.) 437–439

Seeds, soya-bean, linseed and safflower, incorporation of acetate and glycerol into glycerolipids of developing cotyledons of (Slack, C. R., Roughan, P. G. & Balasingham, N.) 421–433

Senescence, effects of, on the oxidation of fatty acids and transport of carnitine and acylcarnitines by rat heart mitochondria (Hansford, R. G.) 285–295

Serine aminotransferase, subcellular distribution of activities of phenylalanine aminotransferase, histidine aminotransferase and, with pyruvate or glyoxylate as amino acceptor in rat liver (Noguchi, T., Minatogawa, Y., Takada, Y., Okuno, E. & Kido, R.) 173–175

Serotonin, *see* 5-Hydroxytryptamine

Serum, rat, effects of hepatic injury induced by the administration of dimethylnitrosamine on the activities of prolyl 3-hydroxylase and prolyl 4-hydroxylase in rat liver and on the concentration of immunoreactive prolyl 4-hydroxylase in, and liver (Risteli, J., Tuderman, L., Tryggvason, K. & Kivirikko, K. I.) 129–135

Shikimate, role of gastrointestinal micro-organisms in the metabolism of, in the rat (Brewster, D., Jones, R. S. & Parke, D. V.) 257–264

Sialic acid, relationship between the content of, of the maternal milk and the activity of neuraminidase in the small intestine of the suckling rat and other mammalian species (Dickson, J. J. & Messer, M.) 407–413

Skeletal muscle, *see* Muscle, skeletal

Skin fibroblasts, human, effects of anti-microtubular agents on the secretion and endocytosis of lysosomal hydrolases and of sulphated glycosaminoglycans by, in culture (von Figura, K., Kresse, H., Meinhard, U. & Holtfrerich, D.) 313–320

Slime polysaccharides, structure and function of glycoproteins biosynthesized during the production of, by membranes of maize-seedling root-cap cells (Green, J. R. & Northcote, D. H.) 599–608

Small intestine, *see* Intestine, small

Smooth muscle, *see* Muscle, smooth

Soya bean, *see* Bean, soya

Spermatogenesis, changes in the structure of chromatin during, in maturing rooster testis as demonstrated by the initiation pattern of the biosynthesis of ribonucleic acid *in vitro* (Mezquita, C. & Teng, C. S.) 203–210

Spermatozoa, ram, inhibition by α-chlorohydrin of metabolism in, and location of the block in glycolysis (Brown-Woodman, P. D. C., Mohri, H., Mohri, T., Suter, D. & White, I. G.) 23–37

Spinacea oleracea, *see* Spinach

Spinach (*Spinacea oleracea*) leaves, quantitative electron-paramagnetic-resonance measurements of the free-radical signal I and the bound iron–sulphur centre of the Photosystem I reaction centre of chloroplasts from (Williams-Smith, D. L., Heathcote, P., Sihra, C. K. & Evans, M. C. W.) 365–371

Spinach (*Spinacea oleracea*) leaves, quantitative electron-paramagnetic-resonance measurements of the reaction-centre chlorophyll (pigment P700), the primary electron acceptor X and iron–sulphur centre A of the Photosystem I reaction centre of chloroplasts from (Heathcote, P., Williams-Smith, D. L. & Evans, M. C. W.) 373–378

Spinal cord, rat, rates of degradation of protein in, and other regions of the central nervous system *in vivo* during postnatal development (Dunlop, D. S., van Elden, W. & Lajtha, A.) 637–642

Spleen, sheep, effects of the administration of excess of copper ions on the metabolism of iron in, and other organs (Theil, E. C. & Calvert, K. T.) 137–143

Squalene, biosynthesis of, as the terminal compound in the sterol-biosynthetic pathway in *Phytophthora cinnamomi* (Wood, S. G. & Gottlieb, D.) 343–354

Squalene, biosynthesis of, by a cell-free system as the terminal compound in the sterol-biosynthetic pathway of *Phytophthora cinnamomi* (Wood, S. G. & Gottlieb, D.) 355–363

Steroids, androgenic, regulation by, of the biosynthesis of major proteins in rat ventral prostate gland (Parker, M. G., Scrace, G. T. & Mainwaring, W. I. P.) 115–121

Steroids, androgenic, regulation by, of the elongation of polyribonucleotide chains on rat ventral-prostate-gland chromatin (Thomas, P., Davies, P. & Griffiths, K.) 211–218

Steroids, oestrogenic, induction by, of the biosynthesis of riboflavin-binding protein in immature chick liver (Murthy, U. S. & Adiga, P. R.) 331–335

Steroids, oestrogenic, stimulation by, of the biosynthesis of ribonucleic acids in immature rat uterus (Knowler, J. T.) 181–183

Sterols, evidence from cell-free systems for differences in the pathways for the biosynthesis of, in *Rhizoctonia solani* and *Phytophthora cinnamomi* (Wood, S. G. & Gottlieb, D.) 355–363

Sterols, evidence from mycelial studies for differences in the pathways for the biosynthesis of, in *Rhizoctonia solani* and *Phytophthora cinnamomi* (Wood, S. G. & Gottlieb, D.) 343–354

Succinate, energy-dependence of the oxidation of, by *Bacillus caldolyticus* membrane vesicles (Dawson, A. G. & Chappell, J. B.) 395–405

Sugar phosphates, phosphorus nuclear-magnetic-resonance studies of compartmentation of inorganic phosphate and, in rat skeletal muscle (Busby, S. J. W., Gadian, D. G., Radda, G. K., Richards, R. E. & Seeley, P. J.) 103–114

Sugars, lipid-linked, formation of, as intermediates in the biosynthesis of glycoproteins in lactating rabbit mammary gland (Speake, B. K. & White, D. A.) 273–283

Sugars, lipid-linked, formation of, by lactating rabbit mammary-gland microsomal fraction (White, D. A.) 479–486

Temperature, role of respiratory substrates, inorganic phosphate and, in the transport of calcium ions by, Ehrlich ascites-tumour cells (Charlton, R. R. & Wenner, C. E.) 537–544
Testis, rat, regulation of the biosynthesis of specific lutropin-induced protein in Leydig cells from (Janszen, F. H. A., Cooke, B. A., van Driel, M. J. A. & van der Molen, H. J.) 9–15
Testis, rooster, maturing, changes in the structure of chromatin during spermatogenesis in, as demonstrated by the initiation pattern of the biosynthesis of ribonucleic acid *in vitro* (Mezquita, C. & Teng, C. S.) 203–210
Testosterone, regulation by, of the biosynthesis of major proteins in rat ventral prostate gland (Parker, M. G., Scrace, G. T. & Mainwaring, W. I. P.) 115–121
Thionein, cadmium-, induction of the biosynthesis of, in isolated rat liver cells (Hidalgo, H. A., Koppa, V. & Bryan, S. E.) 219–225
Thromboxane B_2, transformation of arachidonate into prostaglandin E_2, 6-oxoprostaglandin $F_{1\alpha}$ and, by sheep lung microsomal fraction (Tai, H.-H., Yuan, B. & Wu, A. T.) 441–444
Thymidine, application of isotope-dilution analysis to measurement of the incorporation of, into deoxyribonucleic acid by cultured Chinese-hamster ovary cells (Scott, F. W. & Forsdyke, D. R.) 545–549
Transfer ribonucleic acid, *see* Ribonucleic acid, transfer
Triacylglycerols, comparison of the metabolism of, and other components of chylomicrons and chylomicron remnants by perfused rat liver (Gardner, R. S. & Mayes, P. A.) 47–55
Triacylglycerols, influence of fat-cell size and site of adipose tissue on the formation of, in these tissues in lean and obese animals (Jamdar, S. C.) 153–160
Tricarboxylic acid cycle, effects of pent-4-enoate on the concentrations of intermediates of, in isolated perfused rat heart (Hiltunen, J. K.) 241–247
Triglycerides, *see* Triacylglycerols
Trimethylamine, conversion of methyl groups of choline via, into methane by micro-organisms in sheep rumen (Neill, A. R., Grime, D. W. & Dawson, R. M. C.) 529–535
Tumour cells, ascites, Ehrlich, role of respiratory substrates, inorganic phosphate and temperature in the transport of calcium ions by (Charlton, R. R. & Wenner, C. E.) 537–544
unc alleles, mutant, two (*uncA401* and *uncD409*), genetic complementation between, affecting the F_1 portion of *Escherichia coli* K12 magnesium ion-stimulated adenosine triphosphatase (Cox, G. B., Downie, J. A., Gibson, F. & Radik, J.) 593–598
Urea, formation of glucose and, from proline in isolated rat liver cells (Hensgens, H. E. S. J., Meijer, A. J., Williamson, J. R., Gimpel, J. A. & Tager, J. M.) 699–707
Urea, roles of the transport of anions and the competition for energy in the interrelationships between the control of the formation of glucose and, in isolated rat hepatocytes (Wojtczak, A. B., Wałajtys-Rode, E. I. & Geelen, M. J. H.) 379–385
Ureogenesis, gluconeogenesis and, from proline in isolated rat liver cells (Hensgens, H. E. S. J., Meijer, A. J., Williamson, J. R., Gimpel, J. A. & Tager, J. M.) 699–707
Uterus, rat, immature, stimulation by oestriol of the biosynthesis of ribonucleic acids in (Knowler, J. T.) 181–183

Vitamin B_{12}, shortening of the cell cycle and reappearance of pools of deoxyribonucleoside triphosphates during unbalanced growth of *Euglena gracilis* induced by (Goetz, G. H. & Carell, E. F.) 631–636
Vitamin C, *see* Ascorbate
Vitamin D, metabolism of cholecalciferol and expression of the activity of, in rats fed on low-calcium and low-phosphorus-diets (Edelstein, S., Noff, D., Sinai, L., Harell, A,, Puschett, J. B., Golub, E. E. & Bronner, F.) 227–233
Vitamin D, relationship between transport of calcium ions stimulated by, and calcium ion-binding protein in chicken small intestine (Spencer, R., Charman, M., Wilson, P. W. & Lawson, D. E. M.) 93–101
Vitamin D_3, *see* Cholecalciferol

Yeast (*Saccharomyces cerevisiae*), lability of the products of the biosynthesis of protein in mitochondria of (Bakalkin, G. Y., Kalnov, S. L., Galkin, A. V., Zubatov, A. S. & Luzikov, V. N.) 569–576

Zea mays, *see* Maize